



CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY

1

V. V. Singh p 90

Annual Report
1974-75

MINISTRY OF HEALTH & FAMILY WELFARE
(GOVERNMENT OF INDIA)



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INDIAN MEDICINE AND HOMOEOPATHY**

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PROLOGUE

1.0 The annual report of 1974-75, as in previous years has highlighted the various project operations. The reports relating to respective systems of medicine were approved by the concerned advisory boards and all the activities of vital importance have been adequately brought to forefront. The perusal of the pages reveal that the orientation or slant was given to all the projects keeping in view the common man's needs as well as national interests and resources. The planning has been largely taking into consideration the economics vis-a-vis priorities. One discouraging factor has been insufficiency of funds under contingency to meet the growing needs of the various research projects. However, of despite these adverse financial vicissitudes, the Council endeavoured to maintain the quality of research and activities of the Council and the results have been quite encouraging.

It will not be out of place to indicate that though the report relates to 1974-75, by the time it is placed in the hands three major special multi-faceted tours were also conducted during the current year (1975-76) in the regions of Andamans and Nicobar islands, Arunachal Pradesh and Laddak. These tours have significance today much more than any period earlier in view of the stress laid on utilisation of national resources to the fullest extent and with a view to consider ways and means of tribal welfare and upliftment. The former view certainly is closely linked to avoiding of import of drugs which can be effective substitutes, and the latter to provide maximum scope to place tribal welfare programmes in the forefront of research planning.

In the light of the experience, special tribal studies are planned and will be initiated shortly and these are considered to provide useful information that has overall beneficial effects.

The Council places on record its appreciation to the continued guidance and assistance of the various advisory boards, executive committee and governing body.

I take the opportunity to sincerely thank all the workers who have shown zeal and enthusiasm and engaged in the programme.

(P. N. V. KURUP)
DIRECTOR

Central Council for Research in Indian Medicine and Homoeopathy

Annual Report 1974-75

The Central Council for Research in Indian Medicine and Homoeopathy is registered under the Society's Registration Act XXI of 1860.

The Council has a Governing Body, an Executive Committee and Five Scientific Advisory Boards, one each for Ayurveda, Yoga, Unani, Siddha and Homoeopathy.

The composition of G. B. is as below:—

2.1 Governing Body

<i>President:</i>	Dr. Karan Singh
<i>Vice President:</i>	Shri C. S. Ramachandran (till Oct. 1974)
	Shri Gian Prakash
<i>Members:</i>	Shri. Prem Nath
	Dr. J. B. Srivastava
	Dr. Y. Nayudamma
	Dr. C. Gopalan
	Dr. Jugal Kishore
	Shri Govinddas Richharya
	Shri Sankta Prasad
	Shri Yashpal Kapoor

Pandit Shiv Sharma
Shri Lal Chand Prarthi
Vd. Durga Prasad Sharma
Shri P. Narayanan Vaidyar
Dr. M. Shanmugavelu
Hakim Abdul Ahad
Hakim Abdul Hameed
Swami Poornananda Tirtha
Swami Vishwananda
Dr. J. N. Sircar
Dr. A. U. Sriram
Dr. G. M. Patel
Dr. V. Narayanaswami

Member-Secretary: Dr. P. N. V. Kurup

The Governing Body met once on 9th December, 1974 during the year 1974-75 and took the following decisions.

1. The emblem for the Council was adopted.
2. The Annual report for the year 1973-74 was adopted.
- 2 a. The audited statement of accounts for the year 1971-72 and 1972-73 was considered.
3. The Governing body while considering the RE for 1974-75 and BE for 1975-76 decided to continue to maintain the present level of activities of the Council without resorting to any retrenchment or discontinuance of any scheme, due to financial limitations.
4. Nomination of Hakim. Abdul Ahad as Chairman of the SAB (Unani) was ratified.
- 4a. The decision of the 9th, 10th and 11th meetings of E. C. were noted.

The establishment of Central Research Institute for Yoga at Vishwayatan Yogashram in New Delhi was also considered in the above meeting. The proposal was subsequently approved by circulation.

2.2 Executive Committee

<i>President :</i>	Dr. Karan Singh
<i>Vice-President:</i>	Shri C.S. Ramachandran (till Oct. '74)
<i>Members:</i>	Shri Gian Prakash Shri Prem Nath Dr. Jugal Kishore Shri Yashpal Kapoor Shri Govinddas Richharya Pandit Shiv Sharma Swami Poornananda Tirtha Hakim Abdul Ahad Dr. M. Shanmugavelu Dr. J. N. Sircar Dr. V. Narayanaswami
<i>Member-Secretary:</i>	Dr. P. N. V. Kurup

During the year under report the Executive Committee had one sitting on 19th October, 1974. The more important decisions taken are as below:—

1. The E.C. observed that the action on the decisions of the preceding meeting could be taken before confirmation of the minutes as it is only a formality.
2. The E. C. approved certain Class I appointments.
3. The E. C. authorised the President to take a final decision on the appointments to the post of Directors for CRIs. (Ay.)

4. Enhancement of Rent of the HQs. building with retrospective effect was not agreed to.
5. Approved the hiring of accommodation at No. 12 Community Centre for locating certain sections of the Headquarters.
6. The President was authorised to take a final decision on the regularisation of the service condition of taken over employees.
7. Decided to make appointments to Sr. Class I posts by 50% promotion and 50% direct recruitment.
8. The extension of revised scales of pay as per the third Pay Commission's recommendations to the employees of grant-in-aid units was not agreed to. The E. C. observed that the Governing Committee of the concerned grant-in-aid units are at liberty to fix suitable scales of pay and allowances for its employees within the funds made available for research by the Council.
9. Authorised the President to take a final decision regarding taking of the assets from Yoga Institute, Santocruse.
10. The organisation of an All India Seminar on Yoga, Science and Man, in New Delhi was approved.
11. Agreed the enhancement of grant-in-aid to Vishwayatan Yogashram.
12. Approved the continuation of various schemes in different systems as recommended by the concerned S. A. Bs.
13. A full-fledged Pharmacy section for the C. R. I. (U) at Hyderabad was sanctioned.
14. The President of the Council suggested that studies of the drug which are having potentialities for treating communicable diseases and useful in reproductive biology should be given priority.
15. An All India Seminar on F.P. with reference to Indian systems of Medicine may be organised during 1975-76.
16. The E.C. reiterated its earlier decision not to pay honorarium to the Project Officers of research Units under the Council except Family Planning Units.
17. Shifting of the Homoeopathic Research Unit from Bhagalpur to Patna was not agreed to. The E.C. directed that the cases of shif-

ting of the research schemes should first be put up to the President before being brought up before the E.C.

18. Approved the staffing and expenditure pattern of Regional Research Institute (Homoeopathy), Kottayam.
19. The setting up of a separate publication division in the Headquarters Office was not agreed to.
20. Discontinuation of research schemes on the basis of poor performance was agreed to as and when recommended by the S.A.Bs. The E.C. did not, however, approve the discontinuance of any scheme for financial reasons.
21. Hakim Abdul Ahad was nominated as Chairman, SAB (U).

2.3 Scientific Advisory Board (Ay.)

Comoposition :

Chairman :

Pandit Shiv Sharma

Members :

Kvj. A. Majumdar

Dr. L. S. Bhatnagar

Shri P. Joshi

Dr. R.S. Singh

Dr. C.P. Shukla

Vd. Pindawala

Vd. Sita Ram Mishra

Dr. Wadalkar

Vd. M.L. Dwivedi

Shri A.T. Sharma

Dr. P.K. Warriar

Dr. K. Sadashiv Sharma

Dr. K. Subramaniam

Dr. N.V. Subba Rao

Dr. B.B. Gaitonde

During the year under report the Board met twice and made the following recommendations

**9th Meeting
(30th June-2nd July, 1974)**

1. The working of various research schemes was reviewed and recommended re-organisation of the schemes to accelerate the research activities.
2. Research methodology and goal of Ayurvedic research were discussed and certain guidelines were added.
3. A committee to finalise the Hand Book of Home remedies was constituted.
4. Four claims were approved for trial on merit basis.
5. The draft Annual report in respect of Ayurvedic research scheme for the year 1973-74 was approved.
6. Recommended replacement of an Officer for his adverse comments against the S.A.B. Members.
7. Standing Sub-Committees for Drug Research, Clinical Research and Literary Research were constituted to deal with the matters of co-ordination in the respective discipline.

**10th Meeting
(23rd & 24th Nov., 1974)**

1. List of journals for publication of the results of research work being carried out under the Council were approved.
2. Recommended for the publication of a quarterly bulletin highlighting the research work of the various units under the Council.
3. The Board suggested that the importance of the programmes of the units the manpower requirements and the output should be kept in view while converting the plan schemes into non-plan schemes.

4. The performance of various units were reviewed and decided to provide need-based infra-structure. Three Sub-committees were constituted to device suitable measures to reorient the programmes on priority basis, after making on the spot study.
5. A pilot study on Cancer was recommended.

2.4 Scientific Advisory Board (Yoga)

Composition :

<i>Chairman :</i>	Swami Poornananda Tirtha
<i>Members :</i>	Swami Dharendra Bhnahmachari
	Swami Shivananda Saraswati
	Swami Manuvarya
	Dr. Puspa D. Shirole
	* Shri O.V. Ramiah
	Shri M.L Gharote
	Dr. G.S Chhina
	Dr. K.N. Udupa
<i>Member-Secretary :</i>	Dr. P.N.V. Kurup

The S.A.B. (Yoga) had one sitting during the year under report and the deliberations are as under :-

8th meeting (13th July, 1974)

1. Emphasised the need for a separate Council for Yoga where the aspects of education and research could be undertaken side by side.
2. Recommended to organise an All India Seminar on Yoga, Science and Man and a Committee was constituted to chalk out the detailed programme.
3. Reviewed the working of the research units.

- 3 a. Enhancement of grant-in-aid to Vishwayatan Yogashram was recommended.
4. Sub-committees were constituted to suggest suitable measures for improving the research outputs.
5. Four new research schemes in Yoga were approved for implementation.
6. The Board suggested to enhance the plan-allocation for the Yoga Research Schemes during the 5th Five Year Plan.
7. Articles on yoga were recommended for publication in JRIM.

2.5 Scientific Advisory Board (Unani)

Composition :

Chairman :

Hakim Abdul Ahad

Members :

Dr. Alhaj Syed Khaleefatullah

Dr. Madan Sarup Gupta

Hakim Iqbal Ahmed

Hakim A.W. Zahoori

Hakim Syed Ghouse Mohiyuddin

Hakim S.M. Shibli

Vacant

Dr. K. Subramanian

Dr. B.B. Gaitonde

Dr. N.V. Subba Rao

Member Secretary :

Dr. P.N.V. Kurup

One meeting was held during the year under report. The Board made the following recommendations :-

6th meeting (19th & 20th Aug., 1974)

1. Emphasised the need to complement the unit with adequate staff for carrying out the programmes smoothly.

2. Recommended to extend the survey programme to Kashmir Valley with Srinagar as base and the shifting of the existing S.M.P. Unit from Jammu to Srinagar.
3. Recommended shifting of S.M.P. Unit from Vijayawada to Hyderabad.
4. Reviewed the progress of various research schemes and made certain suggestions for improving the research output.
5. The scope and functions of Literary Research in Unani system of Medicine were evolved.
6. Recommended allocation of additional funds for the research schemes in Unani system of Medicine and also the implementation of the schemes already approved by the Board.
7. Recommended creation of one post of R.O. (U) in the Headquarters office.
8. Honorarium to Honorary Project Officers was recommended.
9. Suggested certain measures to overcome the manpower requirements.

2.6 Scientific Advisory Board (Siddha)

Composition :

Chairman :

Dr. M. Shanmugavelu

Members :

Dr. C.S. Uthamaroyan

Dr. V. Raghupathy

Dr. V. Vishwanathan

Dr. E.R. Balakrishnan

Dr. J.R. Krishnamoorti

Dr. R. Thyagarajan

Dr. T.S. Parthasarathy

Dr. B.B. Gaitonde

Dr. N.V. Subba Rao

Dr. K. Subramanian

Member Secretary :

Dr. P.N.V. Kurup

During the year under report one meeting of the Board was held and the Board made the following recommendations :-

**6th meeting
(15th July, 1974)**

1. Discussed the research problems in Siddha system of Medicine and suggested certain measures for development of research.
2. The Board reiterated its earlier recommendation for publication of manuscripts earlier approved.
3. Recommended the trial of certain drugs on cancer which are described as effective in the classics.
4. Recommended to improve the popularity of this system through the publication of articles and research papers in the Scientific and Medical journals.
5. Two drugs Aluganni and Mamsarohini having rejuvenating potentialities were recommended for clinical trial.
6. The research work done by various units were assessed.
7. Annual report for the year 1973-74 was approved.
8. The Board recommended the identification and chemical analysis of the plants Siromani Sanjeevi and Amara Sanjeevi Sadha.

2.7 Scientific Advisory Board (Homoeopathy)

Composition :

Chairman:

Dr. J.N. Sircar

Members:

Dr. M.C. Batra

Dr. A.U. Ramakrishnan

Dr. T.R. Chadda

Dr. K.D. Gupta

Dr. P. Sankaran

Dr. Dilip Sarkar

Dr. B.N. Chakaravarti

Dr. B.B. Gaitonde
Dr. K. Subramanian
Dr. N.V. Subba Rao
Dr. P.N.V. Kurup

Member Secretary:

During the year under report the Board had two sittings and took the following decision:-

**8th meeting
(9th May, 1974)**

1. The progress of work of different research schemes under Homoeopathy were reviewed and the future programmes were designed.
2. Recommended that the clinical research programme should be drug oriented.
3. The Board also evolved some more topics to extend the research activities.
4. Reorganisation of certain schemes was recommended.
5. Increased allocation of funds for Homoeopathy was recommended. The Board also recommended to convert some of the existing continuing schemes into non plan schemes.
6. Recommended to establish a R.R.I. at Agra by amalgamating the existing units.
7. Staffing pattern for R.R.I., Kottayam was recommended.
8. Revised qualifications for the post of Nurses and Pharmacists were recommended.
9. Annual report for the year 1973-74 was approved.
10. Recommended collaboration with the International Homoeopathic League to enable the research workers to acquaint themselves with the development of research in Homoeopathy.
11. Issue of appreciation certificate to the provers engaged in proving programme was recommended.

12. Approved to conduct trials in Filariasis in the C.R.I. (Homoeopathy).
13. Investigation on the claim for the transmission of Homoeopathy Drug Energy from a distance was approved.
14. A scheme on Electrolyte Therapy in Muscular Dystrophy was approved for implementation.
15. The Board recommended that the N.P.A. should be given to the Research workers under the Council.
16. Suggested to depute research workers for training in different fields in other research organisation.

**9th meeting
(28th Feb. & 1st March, 1975)**

1. The Board decided to investigate the prophylactic efficiency of Homoeopathic drugs in Epidemic diseases.
2. The Board reiterated its earlier recommendation to grant N.P.A. to research workers in I.S.M. and Homoeopathy.
3. The Board reiterated its earlier recommendation to take up training programme to train research workers in Homoeopathy by deputing them to other research organisations.
4. The Board assessed the working of various research units.
5. Resolved that Sr. Technical Officers may be invited at the time of discussion of the work done by the respective units.
6. The Board recommended the study of Caulophyllum clinically through the National Family Planning Institute.
7. Certain Ayurvedic drugs known for its efficacy were recommended for clinical trial in Homoeopathy.
8. Decided that the Biological standards of the drugs which have been included in the Homoeopathic Pharmacopoeia of India should be evolved. The guidelines for this work was also approved.
9. Reorganisation of Drug Proving and Drug Standardisation Units functioning at Bhagalpur and Patna respectively was recommended.

10. A clinical research scheme for implementation at AIMS, New Delhi was approved.
11. Guidelines for trial of individual claims suggested.
12. Decided to allocate the problem to find out suitable substitute for lactos to the C.R.I.
13. The Board approved the revision of the scheme on Pulsatilla being carried out at B.H.U.
14. The Board recommended the creation of Sr. Research Officer in the R.R.I., New Delhi.

3.0 Obituary

The Council places on record the valuable services rendered by late Shri Kaladi Parameswaran Pillai, Ex-Member of the Governing Body and Hakim Mahmoodur Rahman Khan, Member, Scientific Advisory Board (Unani). Vd. Kaladi Parameswaran Pillai was an eminent practitioner and reputed scholar and research worker in Ayurveda and was associated with many important activities under the Central and State Governments and other non—governmental agencies. He was a member of the First Governing Body of the Central Council.

Hk. Mahmoodur Rahman Khan, Scholar in Unani system of Medicine has contributed immensely for the development of research in Unani system of Medicine during his short tenure as member of the Second Scientific Advisory Board (Unani).

The sad and sudden demise of these scholars are an irrecoverable loss to the Council.

4.0 Acknowledgements

The Directorate of the Council places on record its deep appreciation of the services rendered by the present and past members of the Governing Body/Executive Committee and different Scientific Advisory Boards and extends its deepsense of gratitude to them for the valu-

able assistance, guidance and continued support given by them to the Council in the conduct of its work.

The Council owes a debt of gratitude to the scholars and Scientists who accepted the invitation of the Council to serve as members of its Advisory Committees and gave their whole hearted co-operation and assistance in the evaluation of research schemes.

The Council thanks the Scientists who assisted the Council in the selection of Scientific workers for the various research projects.

The Council avails this opportunity to convey its profound thanks to the Government of India for their continuous support, helpful attitude and co-operation which enabled the Central Council for Research in Indian Medicine and Homoeopathy to pursue satisfactorily its activities in the field of research.

The Council records its debt of gratitude to the Officers-in-Charge and Project Officers of the Research Units for their high sense of responsibility and the helpful suggestions given by them.

The Council expresses its sincere thanks to Shri Khadilkar, R. K., former President of the Council for his guidance and leadership in the development and progress of the Council.

The Council is thankful to the Chairman and members of the Scientific Advisory Board of respective systems of medicine who have guided the programmes in the respective systems from time-to-time.

The Council hopes to expand its field of research as well as concentrate the activities of the research in Institutes/Centres/Units and Enquiries functioning under the Council. In this great task the Council looks forward with confidence to the continued support and interest of the President, Vice-President, Members of Scientific Advisory Boards and scholars and Scientists spread all over the country directly or indirectly connected with the Council. Thanks are also expressed to the various host institutions that are associated in the research programme of the Council.

The expansion in the activities of the Council has increased the work load on the staff and the staff discharged their responsibilities com-

mendably. The Council records its appreciation for the sincere service rendered by the Officers and Staff of the Central Council for Research in Indian Medicine and Homoeopathy and for the co-operation extended by them.

5.0 Audited statement of accounts

The statement of accounts of the Council for the year under report as audited by the Accountant General Central Revenues are annexed.

C O N T E N T S

- 6. 1. 0. **Central Research Institute**
- 6. 1. 1. **Cheruthuruthy**
- 6. 1. 2. **Patiala**
- 6. 2. 0. **Regional Research Institute**
- 6. 2. 1. **Bhubaneswar**
- 6. 2. 2. **Calcutta**
- 6. 2. 3. **Jaipur**
- 6. 2. 4. **Trivandrum**
- 6. 3. 0. **Jawaharlal Nehru Ayurvedic Medicinal
Plants Garden and Herbarium, Poona**
- 6. 4. 0. **Captain Srinivasa Murthy Research
Institute, Madras.**
- 6. 5. 0. **Amalgamated Unit, Tarikhet**
- 6. 6. 0. **Dr. A. Lakshmi pathi Unit for Research
in Indian Medicine, Madras**
- 6. 7. 0. **Regional Research Centre**
- 6. 7. 1. **Bangalore**
- 6. 7. 2. **Jhansi**
- 6. 7. 3. **Jogindernagar**
- 6. 7. 4. **Nagpur**
- 6. 7. 5. **Vijayawada**
- 6. 8. 0. **Survey of Medicinal Plants Project**
- 6. 8. 1. **Gauhati**
- 6. 8. 2. **Gwalior**
- 6. 8. 3. **Jammu**
- 6. 8. 4. **Patna**

- 6. 8. 5. **Rajpipla**
- 6. 8. 6. **Tirunelveli**
- 6. 8. 7. **Supply of drugs**
- 6. 9. 0. **Standardisation Research Project**
- 6. 9. 1. **Jamnagar**
- 6. 9. 2. **Junagadh**
- 6. 9. 3. **Varanasi**
- 6. 9. 4. **Vijayawada**
- 6.10. 0. **Pharmacognostical Research Project**
- 6.10. 1. **Ahmedabad**
- 6.10. 2. **Calcutta**
- 6.10. 3. **Chandigarh**
- 6.10. 4. **Jammu**
- 6.10. 5. **Lucknow**
- 6.10. 6. **Poona**
- 6.11. 0. **Chemical Research Project**
- 6.11. 1. **Calcutta**
- 6.11. 2. **Delhi**
- 6.11. 3. **Hyderabad**
- 6.11. 4. **Lucknow**
- 6.11. 5. **Varanasi**
- 6.11. 6. **Supply of active fractions**
- 6.12. 0. **Pharmacological Research Project**
- 6.12. 1. **Bhopal**
- 6.12. 2. **Bombay**
- 6.12. 3. **Calcutta**
- 6.12. 4. **Jodhpur**
- 6.12. 5. **Lucknow**
- 6.12. 6. **Meerut**
- 6.12. 7. **Trivandrum**
- 6.12. 8. **Varanasi**
- 6.13. 0. **Applied Drug Research Project**
- 6.13. 1. **Ahmedabad**

- 6.13. 2. **Bombay**
- 6.13. 3. **Gwalior**
- 6.13. 4. **Lucknow**
- 6.13. 5. **New Delhi**
- 6.13. 6. **Pondicherry**
- 6.13. 7. **Poona**
- 6.13. 8. **Varanasi**
- 6.14. 0. **Survey and Surveillance Project**
- 6.14. 1. **Jamnagar**
- 6.14. 2. **Kurukshetra**
- 6.14. 3. **Varanasi**
- 6.14. 4. **Vidisha**
- 6.15. 0. **Clinical Research Projects**
- 6.15. 1. **Bangalore**
- 6.15. 2. **Baroda**
- 6.15. 3. **Bombay**
- 6.15. 4. **Bombay**
- 6.15. 5. **Hyderabad**
- 6.15. 6. **Kottakkal**
- 6.15. 7. **New Delhi**
- 6.15. 8. **Ahmedabad**
- 6.15. 9. **Ahmedabad**
- 6.15.10. **Gauhati**
- 6.15.11. **Hardwar**
- 6.15.12. **Hardwar**
- 6.15.13. **Jammu**
- 6.15.14. **Lucknow**
- 6.15.15. **Madras**
- 6.15.16. **Poona**
- 6.15.17. **Varanasi**
- 6.15.18. **Varanasi**
- 6.15.19. **Varanasi**
- 6.15.20. **Varanasi**

- 6.15.21. **Varanasi**
- 6.15.22. **Varanasi**
- 6.16. 0. **Literary Research**
- 6.16. 1. **Documentation**
- 6.16. 2. **Indian Institute of History of Medicine**
- 6.16. 3. **Journal of Research in Indian Medicine**
- 6.16. 4. **Thanjavur**
- 6.17. 0. **Publication & Participation**
- 6.18. 0. **Project and Programme.**

6.1.0 Central Research Institute

The Central Research Institute, Cheruthuruthy is conducting applied research on *vata* and *vatarakta* groups of diseases in addition to short term programmes like *pratishyaya*, *udarakrimi*, *pama* and *vicharchika*. The long term studies are conducted at in-patient and the short term projects at out-patient level as well as in the mobile clinical research project.

Cases for the different programmes are selected from out-patient section. During the year under reporting the Institute had an attendance of 6807 new cases with old cases numbering to 11,090 for repetition of the drug or for any change in the treatment based on progress.

The details of diagnosis of the cases handled at out-patient level are as below:—

<i>Jwara</i>	621
<i>Vatavikara</i>	972
<i>Vatarakta</i>	275
<i>Kasa</i>	272
<i>Pandu</i>	742
<i>Pradara</i>	314
<i>Udarakrividikara</i>	714
<i>Thwakroga</i>	610
Other diseases	2287
	<hr/>
	6807
	<hr/>

80% of the cases showed relief.

The Institute has taken up short term projects on *pratishyaya*, *udarakimi* and *thwakrogas* like *pama* and *vicharchika* with coded drugs, Decoding will be done after conducting studies on 100 patients in each project. The preliminary findings are encouraging. Intensive studies are in progress in cases of *Pakshaghata*, *Vatarakta*, *Amavata*, *Khanjata* and *Pangulya*.

The diagnosis of *Pakshaghata* was based on the description found classical as well as other works. The therapeutic regimen adopted is as below:—

- (i) *Bhadradarvadhi Kashaya* with 41 times fortified *Dhanwantara thaila* daily.
- (ii) *Nirgundibaladi thaila* for *Abhyanga* on alternate days.
- (iii) *Dravasweda* (*chinchā, eranda, nirgundi* and *arkapatra*).
- (iv) *Gandharvahastha* with *eranda thaila* in the morning.

Physical examination as well other investigations were carried out to confirm diagnosis and observing progress from time to time. *Sirasnayusosha lakshanas*, *Sandhibandha vimoksha lakshanas*, *Akarmanayata*, *Vichitanata*, *Vaksthambha* and *Jihwasthambha*, *Ardhita lakshanas* in addition to testing of muscle power, sensory changes, reflexes etc. are recorded. Biochemical investigations are also conducted. A total of 21 cases were treated and the response has been as below:—

Response	Marked relief	Moderate relief	Mild relief	No relief
	13	4	2	2

The response indicated above is based on relief observed in the presenting signs and symptoms of the cases as well as with reference to regaining of certain of or all the functions in different degrees or completely. On this criteria, the response of varying degrees were recorded.

A total of 17 cases belonging to *Vatarakta* and allied group were studied. The diagnosis was based on information available in classical Ayurvedic works. Physical examination and a range of possible laboratory investigations were conducted so that this helps in assessment of

progress and results in addition to establishing diagnosis. The therapeutic regimen followed is as hereunder:—

1. Internal administration of a coded medicated oil daily.
2. Internal administration of a coded medical oil once a day.
3. Application of *Satahwa lepa* over affected joints.
4. Application of *Pinda thaila* to affected areas.

The response is reported under the heads mentioned earlier and the signs, symptoms and investigations acted as criteria in the process of assessment.

The results are as below:—

Complete relief	Marked relief	Moderate relief	Mild relief
5	6	4	2

Helpful leads in the therapeutics of this condition seem to be available from the approach plan adopted.

A total of six patients of *Amavata* were treated and the diagnosis was made based on the description available in Ayurvedic works in addition to other physical signs possible at bed side.

The therapeutic regimen is as below:—

1. *Amruthothara kwatha* twice daily.
2. Vettumaran with the above *kwatha* in cases of *amavata* associated with *jwara*.
3. *Gandharvahasthadi* with *eranda taila* and *sunteesitajala*.
4. *Valuka potaleewada* or *Satahwa lepa* to affected joints based on needs.

A plan of assessment criteria is drawn to report the response. The criteria adopted for assessment are relief of pain and swelling in various joints, relief from *jwara*, *Vibhanda hridaya gourava* and other signs and symptoms in addition to interpretation of results of investigations. For the purpose of convenience, a working chart for evaluation of results was drawn and response recorded in terms of complete relief, marked relief where 75% of cure is effected, moderate if cure level is at 50% and mild when it is 25%. The result of treatment of the cases treated are as hereunder :

Complete relief
2

Marked relief
2

Moderate relief
2

Cases of *Khanjata* and *Pangulya* were studied using parameters identical to *Pakshaghata*. The criteria of assessment was drawn earlier and the reporting of response is based on this criteria. The number of cases studied under this are 20. The results of treatment are as below:-

Complete relief **Marked relief** **Moderate relief** **Mild relief** **No relief**
1 1 13 13 2

The therapeutic regimen followed is as below:

1. *Bhadradarvadhi kwatha* with 41 times fortified *Dhanwanthara taila*.
2. *Balarishta*
3. *Gandharvahastha* with *eranda thaila*
4. *Mahamasha thaila* or *Nirgundibaladi thaila* for *Abhayanga*. The studies conducted so far showed promising leads and the further extension of the study is necessary to study the different aspects related to drug and disease. Short term projects on *pratishyaya*, *udarakrimi* and *pama* and *vicharchika* also have provided encouraging results that can be included for a large scale trial. The trials was conducted with drugs under coded names which will be decoded after trial on sufficient number of cases. It is, however, relevant to project the picture of response of these cases :-

S. No.	Clinical entity	Total cases	Results				
			Complete relief	Moderate relief	Partial relief	No change	Not recorded
1.	<i>Pratishyaya</i>	41	39	2	—	—	—
2.	<i>Udarakrimi</i>	13	7	8	—	—	—
3.	<i>Pama</i> Group A drug (Taila)	14	8	—	5	1	—
4.	<i>Pama</i> Group B (Extract)	7	3	—	2	—	2
5.	<i>Vicharchika</i> A (Taila)	5	3	—	2	—	—
6.	<i>Vicharchika</i> B (Extract)	2	—	—	2	—	—

The report on 5 cases of Pratishyaya, 3 of Udarakrimi are still on treatment and as such they are not shown in the analysis of data above.

The following table provides the cases admitted in in-patient section:—

<i>Diagnosis</i>	Total number of cases
<i>Pakshaghata</i>	32
<i>Vatarakta</i>	23
<i>Amavata</i>	6
<i>Khanjata and Pangulya</i>	18
<i>Sandhigatavata</i>	6
<i>Gridhrasi</i>	2
<i>Ardita</i>	3
Other diseases accompanying <i>Vata</i> diseases	36
	126

The total number of cases under short term projects are as below: (The reference table does not cover cases still under treatment/observation);

Pratishyaya	46
Krimi	18
Pama	21
Vicharchika	12

It can be observed that the response has been encouraging and further study can provide material suitable for assessment of effect and for confirming the appropriateness of the approach.

Biochemistry section has been carrying out essential clinical biochemical investigations. Studies related to investigation of single drugs in addition to drugs taken up at the Institute are being worked out. Chemical studies on *Vitex negundo*, *Putranjiva roxburghii*, *Entada*

scandens (locally available drugs) and *Lohasava* (compound formulation used in Ayurveda) were carried out. The two observations that the section projected during its study i.e. one relates to reduction of eosinophilic count with administration of *lohasava* and lowering of ESR level in case of *Vatarakta* with internal use of a coded *thaila*, have been interesting. The studies relating to the aspect are expected to provide interesting therapeutic leads. These studies are in progress. Effect of *Saptarangi* in blood sugar levels are being studied. The section supplied alcohol extract of a coconut shell for clinical trials.

The investigations conducted in the laboratory are as below :—



Biochemistry		Pathology	
Blood sugar	129	Blood	
Cholesterol	104	TC	532
Blood urea	76	DC	532
Alkaline Phosphates	19	Hb%	532
Creatinine	4	ESR	550
Uric acid	40	VDRL	190
Calcium	15	Urine	316
Liver function	2	Motion	50
		Sputum Exam.	20
		for AFB	

The Pharmacology section of the Institute has studied pharmacologic profile of *Tagara (Valeriana Wallichii)* and a coded drug AYUSH-46. The benzene and alcohol extracts of *Valeriana wallichii* produced good relaxation of isolated guineaping ileum and mild relaxation of rabbit tracheal chain. These extracts protected rats to a certain degree from convulsions due to electric shock. AYUSH-46 produced similar effect on convulsions induced by electric shock. Acetone and alcohol extracts of *Sati (Curcuma zedoaria)* alcohol extract of *Manjistadi spe-*

cial yoga choorna. Amruthothara yoga, choorna, Gokshura (Tribulus terrestris) were screened for the antifungal activity. The studies revealed that they were effective in curing the cutaneous eruptions caused by *Candida albicans*. A project for breeding a colony of civet cats for collection of *Gandhamarjara veerya* has been taken up and steps are in progress.

The Mobile Clinical Research Unit of the Institute has commenced the study in a randomly selected village Desamangalam. The initial study was completed in 122 individuals and fifth follow up study in 136 individuals. Study in 460 at initial level is in progress. During its study visit at this place, the team observed that there are six physicians locally residing and of these five practise Ayurveda.

The common diseases the survey and surveillance team noticed in the area are *pama* and *pandu*. The common drugs like *tulasi, vasa, snuhiksheera, shigru* and *triphala* seem to find usage in certain of simple ailments like *kasa, jwara, malabandha, grandhi, abhishyanda* etc.

Simple non-specific *sweta pradara* cases and cases of *pandu* were taken up for assessing effect of *Gokshuramodaka* and *lohasava* respectively as special short term subjects of study. *Gokshuramodaka (Gokshura madhusnuhi and Sarkara* in 1 : 1 : 2 ratio) is administered in 5 gm. dosage twice a day with *Gokshura* for two months. Of the 180 cases treated, 64 registered complete relief and 30 presented a picture of partial relief. 28 cases showed relief after 4 weeks treatment but had recurrence after six weeks of discontinuance of the drug. The remaining did not continue the course of treatment regularly.

In case of *pandu, lohasava (Sarangadhara samhita)* showed a remarkable increase in Hb. content of the blood. Lowering of eosinophil count has been observed. This observation which was incidental during study needs to be confirmed by further extension of studies.

6.1.2. The Central Research Institute, Patiala conducted studies on the following problems during the period under review:-

1. Clinical study on *Tamakaswasa*.
2. Treatment of *Amavata*.
3. Treatment of *Pakshaghata*.

4. Treatment of *Madhumeha*
5. Treatment of *Switra*
6. Treatment of *Sweta pradara*
7. Clinical study on *paurusha grandhi sodha*
8. Role of Ayurvedic drugs in the post operative treatment of surgical cases.

Tamaka swasa has been studied by *samsamana chikitsa paddhati* using drugs and by *samsodhana chikitsa krame* utilising *vamane* and *virechana karma*. Under the former, two groups of drugs i.e. 1) *Naradoeya lakshmililasa rasa* with *Godanti bhasma* and (2) *Swasakesari*, were tried. The number of cases studied under these groups are 115 and 101 cases respectively. The constant complaints observed in most of the cases are *kasa*, *prishta vedana*, *uroruk sakoshta kaphanissravan*, *dourbalya*, *pandu* and *vibhanda*. Patients reported a range of subjective and objective symptoms. The period of treatment under Group I has been as short as two weeks in 28 cases and as long as 12 weeks in 8 cases. About 32 cases had treatment for 2-4 weeks period. Between 4 to 10 weeks period range there were 54 cases. Response has been recorded based on freedom from symptoms and pathology. Complete relief in 28 cases and 75% relief in 59 cases has been recorded. 15 cases showed 50% relief whereas three had 25% relief with 10 left treatment against medical advice.

In group II where 101 cases were studied the symptomatology noticed has been identical to the earlier one. Of the 101 cases, 26 had treatment for 2 weeks or less and 28 for a period upto 4 weeks. The 41 cases had treatment ranging between 4 to 10 weeks, where as six had treatment beyond 10 week-period. 21 cases registered total relief and 41 had 75% relief. 23 cases showed 50% relief. One case did not respond and eleven left against medical advice.

As indicated earlier, studies on *tamaka swasa* were conducted using *madhuyashti kwatha* for *vamana karma* and *eranda sneha* with *trivrit* for *virechana karma*. 36 cases were included in this study; of these 15 were of *Vata prakriti* and *rest kapha prakriti*. This approach showed 100% relief in 22 cases and 75% relief in 13 cases and 50% relief in one case. As a part of the programme, the Institute took up to standardisation of *swasa kesari* tablets that are used in *tamaka swasa*. The steps

like standardisation of raw drugs and study of certain pharmaceutical necessities like weight of the tablet, diameter, disintegration, hardness, preservation, storage etc. are taken up under this. The work is in progress.

28 cases of *amavata* were studied in the current period. Of these, 17 cases had *Yogarajaguggulu* (0.5 gms. thrice a day) with *Rasnasaptak kwath* (50 ml. thrice a day). Only one case reported 75% relief, 7 had 50% relief, 3 cases had 25% relief and two did not respond. A group of 11 cases were treated with *Alambushadi choorna* (4 gm thrice a day with warm water) and *Alambushadi kwath* (50ml. thrice a day). One case showed complete relief and 4, 1 and 2 cases showed 75%, 50% and 25% relief respectively.

21 cases of *pakshaghata* were treated with *Yogaraja guggulu* and *Rasnasaptakwath*. The relief of 100%, 75%, 50% and 25% was observed in 1,5,4 and 8 cases respectively, 11 cases of *madhumeha* were studied using a coded drug *Madhwari* C I gm. twice a day with warm water and I gm of *Shilajith* twice a day with milk. *Babbularishta* 25 ml. twice daily after food. 2 cases reported 75% relief, 5 had 50% relief and one had 25% relief. The studies are supported by investigations considered helpful.

The institute has taken up to study of *switra*. A total of 95 cases are in the follow-up phase this year. In view of the need for a treatment for long period, it is not possible to advance an opinion yet it can be indicated that the approach seem to benefit this condition.

187 patients of *sweta pradara* were treated with *Pradarari choorna* 3 gms. thrice a day with *uttaravasthi* with *Triphala kwatha* and *Tuvari* followed by a cotton plug of *Jatyadithaila* for 15 days. Most of the cases reported headache, backache, general malaise, nausea and anaemia. 161 cases of the total showed 100% relief and the remaining presented a picture of 75% response. The cases that were treated included cases diagnosed as chronic cervicitis, prolapse of uterus, infantile uterus with pin hole of introverted uterus in addition to idiopathic actions %. The period of treatment ranged from two to fourteen weeks. 82 cases had treatment for a period between 4 to 6 weeks. 35 had between 6 to 8 weeks and 69 between 8 to 14 weeks. The results of this trial seemed to be better than trial with *Pushyanugachoorana* with *Pradaranthaka lauha*, *ashokarishta* with *Chandraprabhavati*, *Kaishoreguggulu* and *Uttaravasthi* as in the present trial for first fifteen days.

The Salya section of the Institute took to study of *paurusha grandhi vridhhi* during the period under reporting. 48 cases reporting symptoms related to enlargement of prostate were treated with *Gokshuradiguggulu* and *Kaishoreguggulu*, two pills of each trice daily with water, *Saribadyasava* with *Khadirarishta* twice a day after food and *Suddha Shilajit* 1 gm. twice daily with milk. The number of patients between 51 to 60 years is 12, 61 to 70 is 16 and 71 to 80 is 13. There were five in age group of 41-50 years and two over 81 years. 21 patients reported 100% relief and 11 had 50% relief.

Role of Ayurvedic drugs in post-operative states of inguinal hernia, hydrocele, vesical calculus, enlarged prostate etc. were studied. Drugs used in the post-operative period are *Kaishoreguggulu* and *Gokshuradiguggulu*. In case of *Prostatectomy*, *Saribadyasava* and *Khadirarishta* were added. The experience seems to be promising.

The pharmacology Department of the Institute has taken up experimental study of anti-inflammatory and anti-arthritis activities of *Yogurajaguggulu* and *Rasnasaptak Kwatha*, hypolipidaemic potentiality of *Navaka guggulu* and *agnimandha kwatha* in addition to toxicity studies of ayurvedic medicines. Aqueous and alcohol extracts of selected drugs/recipes have been taken up in this programme. The Institute is planning study of mechanism of action of drugs described in Ayurveda considered to possess aphrodisiac action.

The Family Planning programme to assess usefulness of *Talisadiyoga* as a contraceptive agent was taken up. The recipe was administered to 90 subjects and of these 43 discontinued and five become pregnant. The remaining 42 are yet to report. The trial proved that *Talisadiyoga* does not appear to be effective. In many cases the individuals did not continue beyond seven cycles.

The fact finding mobile clinical research unit of the Institute has been engaged in the collection of health statistics in certain of the nearby rural pockets. The work initially as a pilot project was taken up at Hazimajra, Pasiana, Wazidpur and Jassowal. During the project-operation the team rendered incidental medical aid and the common diseases met with are *kasa*, *tamaka swasa* and *sweta pradara* and a few occasional cases of *sandhiga tavata roga*, *pratishyaya* and general *vata-vikaras*. The areas visited hardly had any medical facilities and the

project had been able to render significant service in addition to discharging the project responsibilities. It has been gathered that the local folk use *nimba* in the treatment of *raktavikaras* and combination of *tulasi* (Sacred basil) and *maricha* (Black pepper) in *Jwara*, combination of *yavani* and *kala namak* in pain in abdomen and *sunti* and *thwak* in *pratishyaya*.

The team has taken up to study on krimiroga with *krimighna choorna* a coded drug.

The work is in progress.

6.2.0. Regional Research Institute

6.2.1. Regional Research Institute, Bhubaneswar is engaged in the study of effect of certain therapeutic approaches in selected clinical conditions in addition to work at fact finding clinical research unit and medicobotanical programme. The problems taken up at in-patient level were *amlapitta* and *parinamasoola*, *pakshaghata* and *pangu* and *amavata*, and at out-patient level *krimiroga*, *twakvikaras* and *sleepada*. The outpatient has been of considerable assistance in selection of suitable cases. The Institute had an attendance of 9,111 new patients and 74,600 old cases during the year under review making a total attendance of 83,711. The common diseases met with at out-patient were *kandu*, *vatarogas*, *ajeerna*, *swasa*, *kasa soola*, *krimiroga*, *grahani*, *atisara*, *pravahika*, *pratishyaya*, *sleepada*, *prameha*, *swayathu*, *arsas* etc. It has been observed that the patients who have been attending the Institute for treatment come from over 150 villages of different nearby districts of the State. At in-patient level, 160 cases were treated. Of these, the number of cases under the major problems of research are as below:—

<i>Parinamasoola</i>	37
<i>Amlapitta</i>	11
<i>Pakshaghata</i>	18
<i>Pangu</i>	8
<i>Amavata</i>	11
<i>Swasa</i>	8

A few cases falling under the term allied disorders to the above or emergencies were also admitted. The Panchakarma Department provided *Snehakarma, Sweda, Vamana, Virechanakarma, Vasthikarma, Raktamokshana chikitsa* in cases suitable for this approach. In case of *amlapitta* and *parinamasoola, yashtimadhu, indrayava, katukarohini* and *triphala* were used. *Guggulu* preparations and *snehasweda karma* formed the approach in study of *pakshaghata, pangu* and *amavatha, Krimi'nudgarasa* and *vidangarishta* were tried in *krimiroga* and *mahamanjishtadi kwatha, yashtimadhu, katuki, triphala* in *twakvikaras*.

The approach in *parinamasoola* and *amlapitta* has also almost been identical. Of the 48 patients of this group distinct improvement was observed in 24 cases. In *Pakshaghata Pangu* group of 26 patient, 24 patients showed varying degree of improvement. The cases of *amavata* were on *Guggulu* preparation and *Rasnadikwatha* and the response has been encouraging. Of the 30 cases, 12 were discharged as cured and 14 as improved. The pain in the joints, movements of joints and other cardinal symptoms were utilised in assessment of the response.

The studies relating to *krimiroga, sleepada, twakroga* have provided promising results. The cases of *sleepada* were treated with *Nityanand- arasa*. The analysis of results can be made after further studies.

Effect of *Ashwagandha choorna* on 60 school-going children was studied. There has been an overall improvement in physical stature and mental development. 2 grams of *Ashwagandha choorna* was administered once daily for 90 days with an assessment made weekly. The short-term studies were conducted by the mobile clinical research team. The team visited *Jadupura* and *Bahadurpura* for collection of health statistics.

Routine pathology and biochemical investigations are being done.

Cultivation of about fifty common medicinal plants and maintenance of a drug museum and an herbarium has been taken up.

6.2.2. The Regional Research Institute, Calcutta has been studying the effect of selected drugs in certain clinical conditions at the Institute and also in the field through the mobile clinical research team. The Institute has a medico-botanical survey wing as well as a clinical family planning project. The out-patient department of the Institute registered about

4490 patients. The clinical conditions where drug trials were conducted are *vatavyadhi* group, *swasa* and *grahani*. In case of *vatavyadi* group *sandhivata*, *katisula*, *amavata*, *pakshaghata*, *gridhrasi*, *apabahuka* were studied. *Prasarini* in the form of *choorna* and *thaila* was used and cases where response was not noticed *yogarajaguggulu* was added. Cases of *swasa* were treated with *ananamula choorna* and *grahani* cases had *kutaja choorna*. Cases of *iwakroga* that attended the Institute had *tivaraka choorna* and *suddha gandhaka*. Cases of *tamaka swasa*, were treated with *Somalata choorna*. A total of 46 cases of these conditions were treated at in-patient level.

In addition to these, project of studying effect of certain drugs in case of *swithra*, *apasmara* and *medoroga* is also taken up.

The mobile clinical research unit has taken up health statistics programme at Mandalganti. The follow-up studies are in progress. The common diseases that were seen there are *vicharchika*, *jwara*, *kasa*, *swasa*, *atisara*, *amlapitta*, *pratishyaya*, *sandhigatavataroga*, *sweta pradara*, *pandu*, *krimiroga*, *udarasoola* and *gridhrasi*. The institute has taken up to study of effect of *Swasagni* (*Anantomula Tylophora indica*) in *tamaka swasa* and *Vidanga choorna* in *krimiroga*. The family planning programme has been taken up recently.

Medico-botanical survey was taken up at Burdwan division. The herbarium of the Institute has about 500 plant specimens. The Institute supplied raw drug material to research projects of the Council. Steps have been taken to cultivate a few commonly used medicinal plants in the Institute premises. The medico-botanical team has recorded from West Bengal *Pedalium murax* and *Gisekia pharnaceoides*. The museum is arranged based on classification of drugs found in Ayurveda.

Folklore information is also collected by the team of the Institute.

6.2.3. The Regional Research Institute, Jaipur has broadly two projects—one connected with drugs and other connected with clinical programme. Survey of Medicinal Plants Unit and Guggulu cultivation programme are taken under the former and study on *grahaniroga* and *amavata* under the latter. General study of *vataroga* and *grahanidosha* were also taken up. The mobile clinical research programme and family planning programme are also attached to the programme of the Institute.

The Survey team visited Mount Abu and collected about 120 species in addition to about a dozen plants from experimental cultivation. The drug research section has taken up to preparation of check list of medicinal plants of the State. The Institute has an herbarium and a museum. Authentic seed material is collected. About 125 plants have been introduced for experimental cultivation. *Asparagus recemosus*, *Plantagoovate*, *Apium graveolens*, *Clitoria ternatea*. *Polyalthia longfolia*, *Glycyrrhiza glabra*, *Tinospora cordifolia*, *Withania somnifera* are a few of these.

Extensive cultivation of *Commiphora wighii* has been taken up at 50 acre plot of Mangliawas. Experimental studies are being planned. Standardisation of market samples of *Ailanthes excelsa*, *Momordica charantia*, *Swertiach irata*, *Aristolochia indicu* and *Commiphora wighitii* are being worked out.

The Clinical Team has taken up study of comparative evaluation of *chitraka* and *sunti* in *grahanidosha*/ *grahaniroga* and evaluation of effect of *guggulu* and *sunti* in *amavata* and *vatarogas*.

The institute reported that the extent of relief has been more with *chitrak* group as compared to *sunti* in *grahani*. The signs and symptoms have been almost completely relieved in *chitraka* group by the end of fourth week and in case of *sunti* it took more time. Group treated with *chitraka* showed increase in body weight. Though there is increase in haemoglobin level in general, the level of increase with *chitraka* is comparatively more. The general finding is that *chitraka* has got better efficacy as compared to *sunti*. Study of effect of *chitraka* and *sunti* on *annavahasrotas* are in progress.

The institute used combination of *sunti* and *guggulu* (each 6 gm.) in three divided doses with luke warm water. Assessment is based on clinical examination and different functional tests. The results indicate that 50% of the cases treated showed fair amount of relief.

Cases of *gridhrasi*, *pakshaghata*, *kampavata* etc. were taken up for study of effect of *guggulu*. The response has been encouraging.

The *swasa* cases were treated with combination of *swasa kutararasa*, *kaphaketurasa* and *suntichoorna* three times a day with water. Cases which had acute exacerbations had *Somalata choorna*.

The Survey of rural and urban areas for collection of health statistics was conducted. 26 villages were visited in this regard. The Institute has indicated that about 21000 were contacted for initial study and about 3900 for follow-up. About 11 physicians were also contacted. Information on prevalence of diseases is also furnished. The common diseases reported as *jwara*, *pratishyaya*, *kasa grahanidosha*, *udaras-hoola*, *swasa*, *atisara*, *vataroga*, *pandu amlapitta* etc.

Folklore information is also collected. The Family Planning programme is also in progress. The Institute has study circles to go into subjects, like medical astrology, collection of reference to plants from tantras etc.

6 2.4 The Regional Research Institute, Trivandrum is the result of amalgamation of Survey of Medicinal Plants Unit, Drug Standardisation Research Unit, Chemical, Clinical and Pharmacognostical Units of C. D. R. S. and Family Planning project. The Survey of Medicinal Plants Unit helped in establishment of a herbarium, a museum and has taken up to cultivation at experimental level common plants of medicinal value. The herbarium has about 260 species. The drug supply to units of Council is also made by the Institute. Study of plants at Trivandrum has been taken up. About 50 plants were collected locally for herbarium besides 15 plants for cultivation. The unit is also engaged in pharmacognostic studies of single drugs allocated for composite drug research project as well as drug standardisation research programme. Drugs entering into the formulary are also taken up for study. Pharmacognosy of *Ela*, *Privangu*, *Saptarangi* and *Parusha* are also studied. The work at Drug Standardisation Research Unit has been pharmacopoeia oriented and as such study was concentrated in the identity of authentic drug material together with efforts to identify the possible substitutes/adulterants. Work on *Nagakesar*, *Pippali* etc. has been helpful in this context.

The chemical studies related to drug standardisation research programme on single drugs, method of manufacture and finished products is also taken up, in addition to study of drugs taken up at composite drug research project. The active principle responsible for antifungal action of the bark of *Cassia fistula* was isolated. It has been found to be hydroxy anthraquinone. The anthelmintic activity of *Calycopteris floribunda* was found due to flavonoid compound Calycopterin Nimbidin

isolated from stem bark as well as the oil from the seeds of *Melia azadirachta* was found to be effective against the tropical eosinophilia. Isolation of fractions considered to possess antifertility and antibacterial studies of certain natural products is in process. Work on *Plumbago roses*, *Embelia ribes*, *Astercantha longifolia* is in progress.

The study relating to drugs entering into *Abhayarishta*, *Draksharishta* is completed and work connected with that of *Dasamoolarishta* is taken up. The method of manufacture is also taken up in case of these formulary items.

The Unit has prepared four new derivatives of embelin by following a novel approach. The details will be released after analytical and spectral data is available.

The applied drug research programme has conducted studies on scabies using Nimbidine. Study on helminthiasis with Calycopterin is in progress. Trial of Lajjalu in psoriasis is in progress. The results of the study are promising and further planned studies may help in providing assessable information.

The place of Vidangadiyoga in the field of antifertility is under progress in the Family Planning programme.

6.3.0. J. N. A. M. P. G. H. & M.

Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona has been largely engaged in cultivation of medicinal plants at experimental level and in the crude drug identification. A museum and an herbarium are also maintained. As a pre-requisite for the experimental programme, the soil studies were conducted so that the information on different soil group will help in knowing the growth of plants in different soils where they can survive and flourish. The garden has fruiting trees in addition to other plants. In case of *Acacia leucophloea*, *Cassia sophera*, *Argyrea specios*, *Ricinus communis*, *Urginea indica*, *Cymbopogon maritini* and *Vinca rosea*, the results are good. Extensive cultivation of *Abrus precatorius*, *Tylophora dalzelli*, *Tylophora indica* *Spilanthes acmella*, *Clitoria ternatea*, *Vetiveria zizanioides*, *Rauwolfia tetraphylla*, *Urginea indica*, *Ricinus communis* and

Aloe vera are cultivated in larger numbers. The garden met the drug requisitions of the research projects. There are about 172 medicinal plants in the garden.

300 sheets were added to the herbarium. Drug museum is being maintained. Experimental studies on *Crocus sativus* revealed the scope for the bulbs to germinate but they do not flower in the Poona climate. Cytological investigations on about 60 plants is in progress. Market samples of *Cinnamomum* species were studied.

6.4.0. Captain Srinivasamurthy Research Institute

Captain Srinivasamurthy Research Institute, Madras is engaged in standardisation of single drugs and formulations. Detailed chemical investigation of *Desmodium gangeticum*, *Chukrasia tabularis*, *Citheroxyllum subserratum*, *Eupatorium ayapana*, *Leonotis nepetaefolia*, *Cressa cretica*, *Randia dumetorum*, *Anisomeles malabarica* *Abutilon indicum* have been conducted. Biochemical studies on the identification of two fungi from *dhataki* pushpa and screening of a compound isolated from Rudanti for anti-tubercular activity were also taken up. The alcoholic extract of *Cressa cretica* yielded three flavone glycosides. The seeds of *Randia dumetorum* has yielded oleanolic acid-3-glycoside. From the whole plant of *Anisomeles malabarica* two diterpene dilactones and butulinic acid have been isolated. One of the diterpenoids is identified as ovatodiolide. The structure for the other has been established.

Pharmacognostic studies on *nimba*, *amalaki*, *mashaparni*, *agnimanthi*, *draksha* and *brihati* were carried out. The studies to identify microorganisms responsible for fermentation in *Kumariasava* were carried out. Monographs for 20 single drugs have been prepared. Preliminary working standards for over 400 formulations have been evolved to meet the pharmaceutical needs.

6.5.0. Amalgamated Units

Amalgamated Units, Tarikhet has been engaged in medico-botanical survey and drug standardisation programme in addition to saffron cultivation, musk deer breeding and experimental cultivation of medicinal

plants. Forest divisions of Rohilkhand, Tons, Varanasi, North Mirzapur, Pilibhit, South Kheri, North Kheri, Kedarnath, North and South Gonda and Gorakhpur were visited. Much of the survey was carried out in alpine, subalpine and inner Himalayan ranges between 1500-3600 m.a.s.l. Areas in the outer mountain ranges below 750 meters and the plains were covered. Special survey tours were carried out for location and collection of *Shilajith*. This survey was conducted in Kanalichina, Satgarh, Chogyal, Vichur, Modi, Mungachina, Dewalthal and Pithorgarh district and also in Almora and Nainital districts. The tours covered new areas in some cases, repeating trips to areas already covered with a view to avail the flowering/fruited seasons and to cover left out pockets. During the survey tour 1106 plants were identified and 1415 plants were collected. 44 samples were collected for cultivation purpose. Material for museum is also collected. Folklore claims were collected during the tours. The herbarium of the Unit has 1871 species from 965 genera and 156 families. The total number of herbarium sheets is 12260. About 400 plant species were identified through Botanical Survey of India and Forest Research Institute. 235 new species were added to the herbarium during the current year. Drug material needed for the research units was supplied based on local availability. 104 species of herbs, 43 of shrubs, 36 of trees and 7 climbers are maintained in the experimental garden. Growth, development and reproduction is observed and record maintained. The drug museum has 270 samples. The plants collected during the year under review is 1364. Information relating to folklore claims is collected.

Pharmacognostic investigations were carried out on different *Bergenia species*, *Didymocarpus pedicillata*, *Salvia lanata* and *Orchis latifolia*. Confirmatory pharmacognostic studies on *Crataeva nurvala* and *Pluchea lanceolata* were conducted. Phytochemical studies on *Guggulu*, *Vamsalochana*, *Munjatak*, *Sarapunkha*, *Sirisha*, *Sala* and *Pashanabhed* were carried out.

The Unit is engaged in studies connected with augmenting supplies of saffron from U. P. hills. The programme is initiated on the western slope of Ranikhet hill at an altitude of 1810 m.a.s.l. with corms brought from Pampore (Kashmir). Experimental studies were carried out after an year's adaptation to Ranikhet. The corms are established in four locations i.e. Ranikhet, Chamma, Dhaamghar, and Tarikhet. At Ranikhet, 1,40,000 corms of different sizes sprouted and are maintained. In

Chamma and Dharamghar the number is 6,200 and 2,000 respectively. Tarikhet has about 1,500 corms. The crop at Dharamghar was found to be susceptible to a rot. Rate of flowering and stigma length are also studied. The unit is engaged in study of a variety of aspects related to saffron which are expected to provide new dimensions to this vital project.

Another project of importance is the exploration of areas of concentration of musk deer and establishment of a stockade for research work for augmenting supply of musk. Preliminary exploration of areas of concentration and accessibility were carried out earlier and study on living habits, adaptability in captivity, feeding habits were studied. The studies covered aspects like the feeding methods, postures adopted and exhibition of biological urges. Collection of animals without the aid of hazardous implements was evolved. The method adopted does not endanger the life of the animal or hurt it. Preliminary anatomical studies were also carried out.

The drug standardisation research programme covered study of single drugs, method of manufacture and finished products. The macroscopic and microscopic studies, diagnostic characters of parts (s) used in the medicine at Pharmacognostic level were conducted on *Akarakarabha*, *Kakol*, *Murva*, *Prisniparni* and *Pushkaramoola*. The work on *Karkata-shringi*, *Mocharasa*, *Dhanvaka*, *Chitraka*, *Trivrit*, *Ela*, *Lavanga*, *Kantakari*, *Daruharidra*, *Vidarikanda*, *Punarnava*, *Madhuk*, *Bharangi*, *Arka*, *Padmaka*, *Krishnajeerak*, *Draksha*, *Shatapushpa* and *Kataka* are nearing completion. Work on *Sati*, *Karpasa*, *Indravaruni*, *Bijaka*, *Chavya* and *Danti* was initiated. The method of preparation of *asava*, *arishta*, *avaleha*, *Kupipakwa*, *Rasayanam*, *bhasma* represented by preparations like *Abhayarishta*, *Kumaryasava A & B*, *Chyavanaprasha*, *Vasavaleha*, *Abhtrakabhasma* (upto 7th part), *Makaradhwaj*, *Swaranavanga* was also taken up. Standards for *agastyaharitaki*, *amritarishta*, *Dasamoolarishta* were worked out.

The work of the standardisation programme in the unit covers broadly analytical, physico-chemical, pharmacognostic manufacturing and compilatory work connected with the drugs and formulations.

6.6.0. Dr. Alurim, V.H.S.

6.6.0. Dr. A. Lakshmiapati Unit for Research in Indian Medicine functioning at V.H.S., Madras carried out studies to evaluate *rasayana* properties of *ashwagandha*, effect of *mandookaparni* for its *medhya* effect, effect of *guggulu* and its fraction on obesity and allied lipid disorders, mechanism of action of *Punarnava* in nitrogen metabolism and of *guggulu* in lowering serum and tissue lipids of normal and waxed animals. *Prakriti* studies in patients with *madhumeha*, *parinamasoola*, *tamaka swasa* are in progress. Another study initiated was to study the *prakriti* of children of the patients suffering from the clinical conditions.

Effect of *ashwagandha* is being studied by double blind method. Analytical results will be available after the target of 120 cases is reached. In view of encouraging response, *Mandookaparni* has been taken up on a large scale trial. The study will be extended to different institutions handling mentally retarded children. - Studies on *guggulu* have confirmed that the crude drug as well as its fractions have the potentiality to reduce the serum cholesterol and lipids in different animal species viz. albino rats, rabbits, chickens, guinea pigs and frogs. The human studies were also undertaken. The reduction in serum cholesterol by crude *guggulu* at the end of 10 days is highly significant compared to that of placebo. In hypercholesteraemic group at the end of 10 days, crude *guggulu* showed P/0.05, while fractions A of petroleum ether extract of *guggulu* showed P/0.01. Further eleven days treatment showed P/0.05. The values for clofibrate are P/0.05 and P/0.05 after 10 and 21 days respectively. The results of study of effect of *mandookaparni* on the general mental ability of mentally retarded children after drug administration for a period of three months, was encouraging. Improvement in behaviour also recorded. Extended studies are in progress.

Work in regard to proneness for different constitutional diseases has been carried out. Certain interesting conclusions in this regard considered helpful have been brought out.

Animal studies to study effect of aqueous extract of *Punarnava* on some liver enzymes involved in protein metabolism are underway. The study of the effect of fraction A of petroleum ether extract of *gum guggulu* on serum and tissue lipids of albino rats cholesterol induced by cholesteraeic rats where waxing is continued concurrently with treat-

ment and where waxing is discontinued during the treatment are underway. Simultaneously absorption of cholesterol in the small intestines in the presence and in the absence of fraction A of petroleum ether extract of *gum guggulu* is in progress.

The unit is also engaged in preparing the tablets for Family Planning programme taken up on large scale trial.

6.7.1. The Regional Research Centre, Bangalore has taken up Drug standardisation programme medico-botanical survey and fact finding mobile clinical activity. The standardisation programme covers single drugs, process standardisation and finished products-Drugs entering into formulations were also studied. About 60 index cards incorporating information available in Ayurveda. Pharmacognosy and chemistry on the drugs taken up were prepared. Studies on seven drugs in all respects were carried out, during the year under review. In addition, studies on 35 drugs coming under compound formulations were also taken up-Analytical studies of *Guggulu*, *Vamsalochana* and *Shilajith* were taken up. *Brahmighrita*, *Bhaskaralavana* and *Avipattikara choorna* were prepared for standardisation purpose. With a view to help determination of identity, analytical studies on *Saindhava lavana*, *Bida lavana* and *Sauvarchalavana* were carried out. The medico-botanical team covered certain forest areas of Tumkur, Chikmagalur, Koppa and Bhadravathi. The herbarium has about 800 species. The number of taxa identified during the year under review is about 300. The centre has taken steps to confirm identity in case of about 250 taxa. Index cards for 625 species are compiled. Raw drugs needed for different research projects were supplied. The parts used in medicine are lodged in the museum in case of about 80 drugs. The number of plants collected during the period under review is about 545. The unit assisted in identification of certain market samples.

The mobile clinical research programme was taken up at Marenahalli and Sarakki. Initial studies were completed in 206 and 1430 individuals in these villages respectively. The follow up study is in progress. The team found that *soola*, *Krimiroga*, *jwara*, *atisara*, *vicharchika*, *vatavikara*, *amalpitta*, *karnasoola* and *sopha* are common. One non-Ayurvedic practitioner is residing in the area. The plan of work to study effect of *Shatavarichoorna* and *Shatavari mandoora* in

pandu has been designed. The survey and surveillance teams have recorded a few folklore claims prevalent in the areas visited.

6-7-2. Regional Research Centre, Jhansi was established in May, 1973 and the preliminary steps for setting up are in progress. While putting efforts in this direction, steps were taken to initiate survey of Moth forest range, Gauna Lalitpur, Talbehat, Dangaria forest range and Jhansi area falling under Bundelkhand forest division. The Centre is maintaining a herbarium and museum. The Centre has initiated steps in the direction of cultivation programme and for maintaining drug depot. There are 127 identified herbarium sheets. The museum has 60 drugs. The Centre collected about 260 plants during survey tours in addition to about ten folklore claims. 25 commonly used plants are under cultivation. The Centre supplied raw drugs to research projects of the Council.

Briefly during the short period of existence, efforts have been made to Project the various programme objects in addition to initiating the cultivation of the medicinal Plants.

6.7.3 Regional Research Centre, Jogindernagar is engaged in the medico-botanical and fact finding clinical programmes. The medico-botanical team visited Lohaul Spiti forest division, Nahar forest division and Mandi forest division during the year under reporting. Local areas were also visited. About 145 identified specimens were deposited in the herbarium. Steps to identify or confirm identity for about 500 plant species are in progress. A museum is being maintained with locally available drug material. The Centre supplied drugs like *Cedrus deodora*, *Baliospermum montanum*, *Rheum emodi*, *Pueraria tuberosa*, *Terminalia chebula*, etc. to the research projects needing them.

The fact finding clinical research programme was taken up at Chounthra after completing work at Tikkri. The information relating to 586 persons was collected as per the proforma. 130 persons of 24 families were contacted for initial study in Pasal village. The effect *Mustha* on *Atisara* with Particular reference to infantile diarrhoea is taken up. The results in the cases treated are encouraging. The disease commonly met with are fever, cough, skin diseases, joint trouble, etc. The plants locally seen are *carum copticum*, *Centella asiatica*, *Berberis*

lycium, Mallotus phillipinensis, Salmalia, Malbarica, Prunus cirasoides, Acorus calamus, Rubia cordifolia, etc. The Centre observed *Brihatmanjishtadi kwatha* to be useful in menorrhagia; *Kuvaraka* oil in aches and pain. Folklore claims of interest have also been collected.

6.7.4. The Regional Research Centre, Nagpur has a survey of medicinal Plants Unit and a Mobile Clinical Research Unit. The survey of medicinal plants team visited Linghai, Lodhai, Dorlee forest areas, Kuhee, Songaon, Khelghar, Dahegaon and a few nearby zones. The Institute has a herbarium. The museum is in the process of arrangement based on *ganas* referred to in Ayurveda. There are about sixty drugs in the museum. Experimental cultivation is taken up in the premises of the Centre. Folklore claims are collected by the teams of the centre.

The Mobile Clinical Research Unit initiated the programme at Lonkhairy and Waddhamma. The Centre has been able to provide incidental medical aid while attending to the objectives.

6.7.5. Regional Research Centre, Vijayawada was engaged in the programme of medico-botanical survey and fact finding mobile clinical research activities. The survey team covered Sattenapally range of Guntur division and Tatigadapa, Krishnalanka, Gannavaram, Nambur of Guntur district and Bhimavaram of West Godavari district. The forests of Sattenapally range are of scrub jungle with thorny acacias mingled with *Balanitis aegytiaca* and a variety of other medicinal properties. In the forest under growth and open areas herbaceous species such as *Aerva lanata, Andrographis paniculata, Abutilon indicum, Evolvulus alsinoides, Tephorsia purpurea, Tribulus terrestris* etc. are seen Shrubby climbers and trailing plants like *Aristolochia bracteata, Tinospora cordifolia, Hemidesmus indicus* etc. are also seen. During the survey the party collected about 380 specimens. The Centre has collected so far about 2130 field numbers of these about 1330 were identified drugs like *Terminalia arjuna, Curcuma longa, Cyperus rotundus, Andrographis paniculatus, Mimusops elengi, Gymnema sylvestre, Hibiscus rosasinensis* etc. were supplied to projects of the Council. The Centre is cultivating common medicinal plants. The drugs museum is maintained. Steps have been taken to prepare herbarium sheets based on Ayurvedic classification. A General survey was conducted of Tirupati hills to study plant wealth of the area. A list of medicinal plants

growing in the districts of Andhra Pradesh through which the River Krishna is flowing has been prepared.

The Mobile research team has chosen Ramavarappadu village for health statistic study. The initial study was conducted in 3000 individuals and follow-up study is in progress. Information relating to the medical facilities and the systems rendering the aid are also recorded. The common ailments of the area of operation are *atisara*, *jwara*, *pratishyava*, *vakshma*, *raktavikara*, *swasa*, *sleepada*, *shirasoola*, *thwakkroga*, etc. Pilot study on the special problem of *sleepada* has been taken up. The therapeutic approach followed appears to be encouraging though calls for a trial for long period. Analysis of the results is possible after sufficient trial. Folklore claims have been collected by the teams of the Centre.

6.8.0. Survey of Medicinal Plants Projects:

6.8.1. The survey of Medicinal Plants Unit, Gauhati visited certain areas of South Kamrup forest division (Compatti and adjacent hills, Baelguri, Garopara) Parchokhra, Sontola, Tiniali, Patgaoh, Bakrahoar etc.) Charduar Reserve forest under Darrang Division, Pynursla, Nongjri Road, Pynursla Dawki Road of Maghalaya state and Jamma valley range of Nowgoing forest division. The herbarium of the Unit has about 460 species. A number of drugs were supplied to various units of the Council. About 80 medicinal plants are cultivated in the garden. The museum has about 175 plants collected during the medico-botanical visits. Folklore claims locally prevalent were gathered.

6.8.2. The Survey of Medicinal Plants Unit, Gwalior covered Pohari and Kolaras forest ranges of Shivpuri forest division in the medico-botanical survey programme. The team collected 570 plant material for herbarium and museum besides indentifying 459 plants during survey. The team studies the medicinal flora of the area within the radius of 5 to 10 km. at each spot. Areas which are rich in vegetation comparatively were chosen. Steps to identify or confirm identity of the previous collections were also taken up. The herbarium of the unit has at present 651 identified plant specimens. The museum has 67 drugs. Information relating to folklore claims is also collected. The flora of Gwalior forest division prepared earlier is being revised. Index cards for each

species collected is being prepared. 600 index cards are currently ready. In most cases, stress is laid to record and utilise the local terminology as well as folk information of each plant collected since they are likely to be useful clues for botanical identification. Plants of repute of Indian Medicine involved in certain controversies with regard to their identity were also examined in the light of their textual descriptions and substitute/adulterant for botanical sources recorded in the area surveyed. Efforts together details on methodology of collection in relation to techniques applied by the drug collectors, information on seasons prescribed for obtaining pharmacologically potential raw material and seasons when they are to be collected are in progress.

6.8.3. The survey of Medicinal Plants Unit, Jammu conducted medicobotanical survey of Ramnagar range of Udhampur Forest Division. The area covered during the reporting year comprise of Ramnagar, Kulwanta, Kaya, Gudalu and R. C. Peak. About 800 herbarium sheets have been prepared during the year and arranged in the herbarium family-wise. This comprise is 297 so far. The process of identification in the remaining is in progress. The herbarium has 795 plant species at present. 210 index cards incorporating botanical, Ayurvedic, Unani and local names and other details are compiled for providing information at a glance. The museum has 75 samples of the parts of the plants used in Indian Medicine. Folklore claims prevalent in the area are also recorded.

The plants in the herb garden include *Anethum sowa*, *Berberis sp.*, *Bergenia ligulata*, *Chenopodium album*, different *Mentha* species, *Melia zadirachta*, different species of *Ocimum* and *Plantago*, *Psoralea corylifolia*, *Rauwolfia serpentina* and *Woodfordia fruticosa* in addition to commonly used medicinal herbs. *Glycyrrhiza glabra* cultivation has been successful.

6.8.4. The Survey of Medicinal Plants Unit, Patna conducted medicobotanical survey of Gaya forest division. Areas explored in the division include Bhalua, Gurpa, Kanakot, Kakolat and Barabar Hills. The work on Rajgir area of Gaya forest division was completed and the flora is under preparation. Initial exploratory survey of Ranchi, Parasnath hills and Gaya forest division are to be further surveyed.

About 280 plants specimens were seen, and 85 plants specimens were collected. 203 herbarium sheets were added to the herbarium during

the year under review making the total to about 881. The museum has 60 drugs.

6.8.5. The Survey of Medicinal Plants Unit, Rajpipla took up medico-botanical survey in the forest divisions of Dahod, Chota Udaipur, Junagadh and Gir (West.), Areas visited in these divisions are as below:-

Forest Division	Area visited
Dahod	Garbara, Jekot, Dahod, Dal Kharkra and Jhalod.
Chota Udaipur	Pawagadh, Jambughora, Jaitpur, Nasavadi, Sajwa, Kavant, Chota Udaipur, Singla, Dol-aria, Ranwar, Hafeshvi, Dungarvant.
Junagadh	Dungarpur, Ramnath, Bordevi and Datar.
Gir (West)	Kutiya, Karmdadi, Chodiya, Kamleshvar, Jambuthala, Sirvanh.

The Unit is maintaining a herbarium, a museum of drugs and an experimental cultivation unit. A total of 869 herbarium sheets are lodged in the unit including 110 of 1974-75. Raw drug supply to the tune of 288 kgs. were supplied to different units of the Council in addition to supply of 160 herbarium sheets as per Council's instructions. Cultivation of *Glycyrrhiza glabra* and *commiphora mukul* has been taken up this year.

The museum has 243 drugs. Folklore information is also collected.

6.8.6. The Survey of Medicinal Plants Unit, Tirunelveli visited Courtallam hills base, Therkumalai estate, Kailash parvatham, Ponnampalathodai, Chemman iduru and old Courtallam area. The herbarium has 536 plant specimens and the index cards are prepared for these. This includes 92 specimens of the reporting year. The herb garden has 300 plants. The drug museum has about 105 specimens. The parts used in medicine are preserved in the museum. About 175 plants are also locally collected. The new records which have not been reported in the flora of Madras by Gamble have been made by the Survey party. They are *Sauramatum guttatum* (Araceae) and *Mikania scandens* (Com-

positae), *Actinopteris radiata* has been made from Valland hills for the first time. Visit to Therkumalai estate in Courtallam provided information about availability of *Nyrtic frarans* and *Syzgium aromaticum*.

List of some of the raw drugs supplied to various research organisations by Survey and Supply Projects:—

1. *Abies specatabilis*
2. *Aconitum heterophyllum*
3. *Acorus calamus*
4. *Actinopteris radiata*
5. *Aegle marmelos*
6. *Albizzia lebbeck*
7. *Aloe vera*
8. *Alternanthera sessilis*
9. *Ammi majus*
10. *Altinigia excelsa*
11. *Andrographis paniculata*
12. *Areca catechu*
13. *Artimesia vulgaris*
14. *Artocarpus lakoocha*
15. *Asparagus racemosus*
16. *Asteracantha longifolia*
17. *Atista indica*
18. *Azadirachta indica*
19. *Baloisopermum montanum*
20. *Banboosa arundinacea*
21. *Barleria prionitis*
22. *Bergenia ligulata*
23. *Bitumen*
24. *Boerhaavia diffusa*

25. *Caesalpinia crista*
26. *Calotropis gigantea*
27. *Cannabis sativa*
28. *Cassia tora*
29. *Calicarpa macrophylla*
30. *Centella asiatica*
31. *Cicer arietinum*
32. *Cichorium intybus*
33. *Cidrus deodara*
34. *Cinnamomum tamala*
35. *Cinnamomum zeylanica*
36. *Clerodendron serratum*
37. *Commiphora mukul*
38. *Convolvulus pluricalis*
39. *Coriandrum sativum*
40. *Costus speciosus*
41. *Curcuma longa*
42. *Cuscuta reflexa*
43. *Cynodon dactylon*
44. *Cyperus pangorii*
45. *Cyperus rotundus*
46. *Desmodium gangeticum*
47. *Dioscorea bulbifera*
48. *Dioscorea hispida*
49. *Eclipta alba*
50. *Embelia ribes*
51. *Entada scandens*
52. *Erythrina indica*
53. *Euphorbia dracunculoides*
54. *Feronia limonia*

55. *Ficus infectoria*
56. *Glycyrrhiza glabra*
57. *Glycormis pentaphylla*
58. *Gmelina arborea*
59. *Gymnema sylvestre*
60. *Hibiscus resasinensis*
61. *Hedychium Spicatum*
62. *Holarrhena antidysenterica*
63. *Indigofera tinctoria*
64. *Juniperus communis*
65. *Lawsonia inermis*
66. *Leptadenia reticulata*
67. *Linum usitatissimum*
68. *Madhuka latifolia*
69. *Mallotus philippinensis*
70. *Marsdenia tenacissima*
71. *Microstylis wallichii*
72. *Mimosa pudica*
73. *Mimusops elengi*
74. *Nyctanthes arboristis*
75. *Ocimum basilicum*
76. *Oroxylum indicum*
77. *Paederia foetida*
78. *Pandanus sp.*
79. *Pueraria tuberosa*
80. *Phyllanthus niruri*
81. *Picrorhiza kurroa*
82. *Piper longum*
83. *Piper nigrum*
84. *Pistacia integerrima*

85. *Plumbago zeylanica*
86. *Polygonatum multiflorum*
87. *Pterocarpus marsupium*
88. *Punica granatum*
89. *Rauwolfia serpentina*
90. *Rhododendrom arboreum*
91. *Rubia cordifolia*
92. *Sausseria lappa*
93. *Sida cordifolia*
94. *Sida retusa*
95. *Solanum indicum*
96. *Solanum xanthocarpum*
97. *Steriospermum persomatum* -
98. *Swertia purpurasores*
99. *Taxus baccata*
100. *Terminalia arjuna*
101. *Terminalia balarica*
102. *Terminalia chebula*
103. *Thalictrum foliolosum*
104. *Thespesia populnea*
105. *Tinospora cordifolia*
106. *Tribulus terrestris*
107. *Trigonella foenum-graceum*
108. *Tylophora indica*
109. *Vit ex negundo*
110. *Vetiveria zizanioides*
111. *Withania somnifera*
112. *Zingiber officinalis*

6.9.0. Standardisation Research Project.

The Drug Standardisation Research Unit, Junagadh is engaged in standardisation of crude drugs and finished products as well as process standardisation. The botanical studies relating to 20 drugs were completed; further 39 drugs of the 86 single drugs that enter into formulations allotted have also been studied. Chemical and phytochemical studies of the drugs allocated are being carried out. The drugs which were studied from this angle are *Solanum xanthocarpum*, *Scindapsus officinalis*, *Juniperus communis*, *Picrorhiza kurroa*, *Curcuma longa*, *Mesua ferrea*, *Area catechu*, *Aconitum heterophyllum* and *Boerhaavia diffusa*. Similar studies on drugs entering into the formulations were taken up. Chemical studies on *Alstonia scholaris* and *Fumaria parviflora* have brought out interesting details which are being further studied. Routine analysis of finished drugs like *asavas*, *arishtas*, *swarna parpati*, *abhraka bhasma*, *vogarajaguggulu tribhuvanakeerti rasa*, *anandabhairava rasa* have been completed. Detailed analytical and other studies relevant to the programme are in progress.

6.9.1.—6.9.3. Evolving preliminary standards for 446 formulations have been taken up at three places i.e. Madras, Jamnagar and Varanasi at Captain Srinivasa Murthy Research Institute, Gujarat Ayurved University and Banaras Hindu University, respectively. Studies for 400 preparations have been worked out and the work in respect of others is in progress.

6.9.4 Drug Standardisation Research Enquiry, Vijayawada is engaged in evolving methods helpful to differentiate groups of *bhasmas* and to identify them. The work was done on 19 *bhasmas*. Broadly the techniques adopted appears to help in differential identification of different *bhasmas* of identical *dhatu*s and differential identification of *bhasmas* of the same *dhatu*s prepared according to different formula. The work on *lohasowveera bhasma*, magnetic properties of *bhasmas* of loha group, identification of *lohasowveera* from *abhraka bhasma*, *tamra bhasma* have been carried out. The study covered aspects related to quality differences, stability, density and rates of migration and differentiation of the genuine *sindoora* preparation from the spurious.

Further studies on a range of preparations are necessary to evolve firm methods in the programme.

10.0. Pharmacognostical Research Projects

Morphological, pharmacognostic, cytological and physiological studies on the different medicinal plants have been studied. Morphological characters were observed in *Eclipta alba*, *Holarrhena antidysenterica*, *Vernonia anthelmintica* and *Alstonia scholaris*. Pharmacognostic studies covering collection, cultivation, organoleptic studies, sensory characters and histological studies of the above plants are being carried out. Physiological analysis was also conducted. A preliminary study on the fluorescence of ethanol extracts of different samples was carried out.

Detailed pharmacognosy of root of *Zaleya pen tandra*, root and leaf of *Calotropis gigantea*, root of *Solanum nigrum*, tuberous roots of *Cyperus kysoor* were done. Phytochemical studies of the last drug were also carried out.

Pharmacognosy of *Cyperus rotundus* (rhizome and root) and *Desmosachya bipinnata* (root stock and root) were completed, work on *Pandanus tectorius* was taken up. Pharmacognosy of *Bupleurum falcatu*s has been completed. Programme of isolation of steroidal compound from guggulu has been taken up. Phytochemical fruits of *Piper officinarum* was conducted. Structure evaluation of compounds isolated from *Piper officinarum* has been done. Preparation of synthetic derivatives from Piperine were taken up. Hemisuccinic ester from glycyrrhetic acid is prepared in large quantities for pharmacological and clinical studies.

The studies on various drugs have potential to be of great value in pharmaceutics and will help in checking adulterations.

The various positive inferences can be deduced with regard to identification, growth characteristics, anatomical peculiarities, cell contents as well as the physiologic nature of different medicinal plants.

The teams engaged in this discipline have helped in identification of plants specimens, as well as confirming identity in case of doubt so that the trials can go on with genuine and authentic plant samples.

The pharmacognostic studies on leaf of *Albizzia odoratissima* haemolytic activity of leaves of *A. Lebbeck* *A. Procera* have been under-

taken. A preliminary phytochemical study on leaf of *A. odoratissima* has also been made. These studies will help to identify the different species of *Albizzia* under study and checking adulteration.

Pharmacognostic and preliminary phytochemical studies on *Palankya* leaf (*Spinacia oleracea*), *Plaaksha* leaf (*Ficus tsiela*) have been undertaken which will help to standardise the drug and also will check the adulteration. Botanical studies on *Tylophora indica*, *Embelia ribes* were also undertaken. The Unit assisted in confirming the identity of drug material referred.

An authentic drug museum and herbarium is main tained. About 5000 plants specimens, of which 1375 are mounted are lodged in the herbarium. The museum has about 430 drug samples. Live plant nursery of rare and important plants is being maintained. Methods of plant propagation and multiplication are being studied. The Unit undertook the floristic study of Moralkanda in Himachal Pradesh. The study of medicinal plants found in Badrinath area was also undertaken. Ethno-botanical studies of Kumaon was another programme of this year.

Medico-botanical study of Bronagiri, mythic hill, often associated with Dronaghal Parvat referred to in Ramayana was also undertaken. One of the Units member joined the expedition to the Nanda Devi Sanetuary for botanising and survey of medicinal plants. The area is rich in alpine medicinal herbs e. g. *Aconitum atrox*, *Bergenia stracheyi*, *Nardostachys jatamansi*, *Picrorhiza kurroa*, *Betula utilis*, *Rhododendron anthopogon*, *Swertia sp.*, *Orchis latifolia*, *Potentilla sp.*, and *Macrotomia benthami*.

Briefly, the programme of the Unit covers collection tours, up keep of the herbarium and museum upkeep of the live plants, attending to technical enquiries, supply of drugs and pharmacognostic research.

6.11.0. Chemical Research Projects

Chemical analysis of the leaves of *Adhatoda vasika* collected in February and extracted within a month yielded 0.6% of the alkaloid. Further the extract contains only vasicine. The leaves extracted after six

months of collection yielded 0.12% and it contains a mixture of vasicine and vasicinone. This points to the need for using fresh leaves in therapy.

From crude alkaloid *Holarrhena antidysenterica*, Conessine. Fraction I and II were isolated. Studies on structure-activity relationship is in progress. From the acetone extract of stamens of *Mesua ferrea*, a new cyclohex adienone carboxylic acid, mesuanic acid was isolated. Preliminary studies showed mesuanic acid to possess anti-cancer activity. Water extract of *Nyctanthes arbortristis* leaves showed the presence of alkaloid. Siamenol was isolated from *Cassia siamea* pods. The acidic fraction of *Tylophora asthmatica* found to have bronchodilatory property.

Two carotenoids have been isolated from roots of *Abrus precatorius*. The seeds of *Xanthoxylum acanthopodium* yielded two flavonoids which have been tentatively identified as 3,5,3'-trihydroxy-8,4'-dimethoxy flavone-7 glucoside and 3,5-dihydroxy-7,8,4'r trimethoxy flavone. From the root extractive of *Glycyrrhiza glabra*, two glycosides and four-non-glycosides have so far been obtained. Various solvent extracts have been prepared from *Feronia limonia*, *Lawsonia inermis*, *Caesalpinia cristata* and *Coccinia indica*.

Chromatographic resolution of the concentrated chloroform extract of the defatted leaves of *Oroxylum indicum* over silicagel afforded a new anthraquinone derivative when the column was eluted with chloroform. This constitutes the first report of the isolation of an anthraquinone derivative from the leaves of *O. indicum*. Column chromatography of the petrol extract of the fruits of *Zanthoxylum alatum* furnished a yellow solid which was found to be identical with tambulin. Imeratorin and 8-gerany loxypseralen have been isolated from the chloroform extract of the fruits of *Z. alatum*. Two new phyllocladane monoacetate are isolated from *Callicarpa mycrophylla*. A new flavonoid compound, designated as Ac-1, $C_{15}H_{10}O_5$ (M-270) has been isolated from the rhizome of *Acorus calamus*. This has been found to exhibit marked inhibitory effect on the rate and amplitude of contraction of isolated frog heart and an inhibitory response against acetyl choline on guinea pig ileum. Besides picrinine, rhazine, nareline and pseudoakummine, a number of new and interesting alkaloids were isolated. A new alkaloid designated as

Sylvatine was obtained from *Piper sylvaticum*. Alpha-tetrapydropal-
matine and Alphacycleanine were obtained from *Stephania glabra*.

The root bark of *Salacia macrosperma* was extracted with petro-
leum ether and benzene. These extracts on concentration were found to
be same on T.L.C. and hence both were mixed.

The concentrated extract is repeatedly extracted with hot methanol.
Hot methanol insoluble portion was found to be gutta percha. Methano-
lic extract after concentration and on column chromatography over silica
gel yielded 6 compounds. Of these two are colourless crystalline sub-
stances identified as alpha-amyrin and *Betasitostiol* and the remaining
are orange red in colour. Structural elucidation is in progress. *Gardenia*
gummifer a bark has been extracted with petroleum ether and alcohol.
The petroleum ether extract after concentration and on column chromo-
tography yielded two compounds. They have been identified as sitosterol
and oleanolic aldehyde. The alcohol extract on concentration deposited
a crystalline substance which have been identified as d-mannitol. The
alcohol extract after removal of-D-mannitol was hydrolysed with 4N
 H_2SO_4 in methanol and separated into acid and neutral genins. The acid
genin portion after treatment afforded oleanolec acid methylester. The
neutral portion of coloum chromatography over silica gel yielded three
compounds. Two were identified as sitosterol and erythrodiol. Structural
elucidation of the third is in progress. Besides friedelin, friedel-1-ene-3-
one, lupeol and sitosterol, two new triterpenes and one quinone methide
were isolated from *Salacia fruticosa*. The identification of quinone
methide is in progress. The two sapogenins isolated earlier from *Gar-
denia latifolia* were assigned structure. One of these is identified as
spinolic acid, a rare triterpene saponenin. The second was assigned the
structure 3-epi-siaresinolic acid on the basis of a detailed physical and
chemical study. Two new saponins were isolated from the green variety
seed of *Achyranthes aspera*. Analytical studies of 32 samples of *Guggulu*
resin were carried out to evolve standards.

The Chemical study of *Fumaria indica* resulted in isolation and
structure elucidation of 2 phenolic and 5 non-phenolic tertiary alkaloids.
In addition 3 quaternary alkaloids, sitosterol and several alkanes and
alkanols have also been obtained and characterised. Of the alkaloids
isolated, protopine showed Hydrocholoretic activity; 1-tetra-hydrocopti-
sine exhibited tranquillising activity of antipsychotic type. Nuciferine,

obtained from *Nelumbo nucifera* has been found to possess a powerful CNS depressant activity. Presence of lupeol, lupenone beta-sitosterol and stearic acid and mixed with different proportions of C₂₀, C₂₂, C₂₄, and C₂₆ fatty acids has been established in *Crataeva nurvala*. In addition it gave a complex mixture of components of steroidal nature in the form of oil which was found to be responsible for the anti-inflammatory property of the petroleum ether extract. Three quaternary alkaloids have been isolated from *Cissampelos pareira*. 1-Tetrandince and fangchinoline have been isolated and characterised from roots of *Cyclea peltata*. Myricyle alcohol, mannitol a glucoside of sitosterol and compound I have been obtained from the leaves of *Cassia tora*. Seeds of *Cassia tora* gave Beta-sitosterol, emodin, rubrofusarin, and compound VIII. Petroleum ether extract of *Albizia lebeck* has yielded friedelan-3-one and r-sitosterol.

The Enquiry for isolation of various extracts for clinical trials functioning at Medicinal Chemistry Department, Central Drug Research Institute, Lucknow has been engaged in isolation of glyeyrrhetic acid and preparation of its derivatives. Sodium salt of hemisuccinate of glyeyrrhetic, an antipeptic ulcer agent has been prepared. The method to obtain the same was standardised on 2 gram scale. Isolation of *Jatamansone semicarbazone* and study of lipid lowering activity of Petroleum ether and ethyl acetate extracts of *Commiphora mukul* has been carried out.

6.11.6. List of plant extractives supplied for study by Chemical Projects;

Source	Extractives
1. <i>Achyranthes aspera</i>	Saponin mixture
2. <i>Adhatoda vasika</i>	Vasicine Vasicinone
3. <i>Asteracantha longifolia</i>	Alkaloidal fractions
4. <i>Calycopteris floribunda</i>	Calycopterine
5. <i>Cassia siamea</i>	Siamenol
6. <i>Commiphora mukul</i>	Ethyl acetate extract
7. <i>Curcuma longa</i>	Curemine
8. <i>Embelia ribes</i>	Embelin

9. <i>Entada scandens</i>	Ente nine
10. <i>Euphorbia neriifolia</i>	Ethylacetate extract
11. <i>Fumaria parviflora</i>	Alkaloid
12. <i>Glycyrrhiza glabra</i>	Glycyrrhetic acid
13. <i>Gossypium arboreum</i>	Gossypol
14. <i>Hemidesmus indicus</i>	2-hydroxy-4-Methoxy— benzandehyde
15. <i>Hibiscus rosasinesis</i>	Benzene extract, Alcohol extract, Petrol extract.
16. <i>Holarrhena antidysenterica</i>	Fraction I, Fraction II
17. <i>Leucas cephalatus</i>	Petrol extract
18. <i>Melia azadirachta</i>	Nimbidine Nimbidinic acid
19. <i>Mesua ferrea</i>	Mesuaferane A -do- B Mesuanic acid Memeisin Mesuol
20. <i>Mimusops elengi</i>	Different extract
21. <i>Nelumbo nucifera</i>	Nuciferine
22. <i>Nymphaea stellata</i>	Petrol extract Alcoholic extract
23. <i>Oxalis corniculata</i>	Different extracts
24. <i>Piper longum</i>	Piperine
25. <i>Plumbago zeylanica</i>	Plumbagin
26. <i>Prongas probilifolia</i>	Osthol
27. <i>Pueraria tuberosa</i>	Petrol extract
28. <i>Salacia fruticosa</i>	Benzene extract
29. <i>Salacia macrosperma</i>	Benzene extract Anti-asthmatic compound.

6.12.0. Pharmacological Research Project

Comparative Pharmacological evaluation of vasicine and its oxidised product vasicinone was carried out with a special reference to their anti-asthmatic effect. These drugs exhibited either potent bronchodilator activity of their own or markedly potentiated the bronchodilatory effect of isoprenaline. In view of the fact that the in extrinsic asthma, distinct immunopathological mechanisms play an important role in the development of asthmatic manifestations such as bronchoconstriction and increased vascular permeability, etc. A new profile of evaluating procedure furnishing the data with respect to bronchodilator, anti-anaphylactic and cardiovascular activity is being planned. The chloroform extract of the plant *Tylophora indica* showed potent bronchodilator activity both *in vitro* and *in vivo* experiments. The potency of the extract was similar to the phylline. The phenolic constituents isolated from seed oil of the plant *Mesua ferrea* markedly potentiated the bronchodilator activity of isoprenaline. Two more fractions are being studied. The study on certain coded drugs for antiasthmatic potentiality is in progress.

Alcohol extract of *Asparagus racemosus* and A₄ fraction of this extract showed significant anti-oxitocic activity. Petroleum ether extract and subfractions of this extract of *Boerhaavia diffusa* exhibited diuretic activity accompanied by natriuresis. The mechanism of peruvoside induced emesis has been studied in detail and nodose ganglion has been established as receptor site for emesis.

Role of catecholamines in the central mechanism of emetic response induced by perucoside and ouabain has also been studied in detail. The petroleum ether extract and its subfractions of *Pueraria tuberosa* showed significant oestrogenic activity. The extract was found to be montoxic by oral and intraperitoneal route. The petroleum ether, chlorogorm and benzene extracts of *Oxalis corniculata* showed significant analgesic activity. AYUSH-51, a coded drug claimed to possess antivenom activity was studied for this potency in male mice against cobra venom. The drug did not show any antivenomous activity.

Studies with seed kernel extract of *Abrus precatorius* indicated that this contains analgesic component and is devoid of any poisonous principles. Acetone extract of the root bark of *Bergenia ligulata* exhibited

analgesic, CNS depressant, diuretic and anti-inflammatory activity. The latter activity was of significant order and interestingly found to antagonise those experimental inflammatory models which do not respond to hydrocortisone and/or salicylate. This extract did not influence experimental lithiasis. The cold acetone extract of *Bergenia ligulata* revealed that this is cardiotoxic on intravenous administration in dogs and possess control nervous system depressant effect. The extract protected against carrageenin induced oedema in rats.

Studies on nimbidine revealed that it has antispasmodic efficacy in the intestinal muscles of rabbit. It has antioxytocin effect in rat uterus. Nimbidin produced negative inotropic and chronotropic effect in smaller doses (50-100 mgm/ml) and in higher doses there was complete cardiac arrest. Plumbagin was found to have marked anti-implantation (Dose 1-8 mg./100g.), antioviulatory (Dose 0.5-2 mg/100 G) and abortifacient (0.5-2 mg/100g.) effects. The toxicity studies revealed low margin of safety. Plumbagin and its derivatives were found to have potent anti-bacterial and anti-fungal effects (Dose 0.5-1 mg/ml and 10-40 mgm/ml respectively). Mild diuresis in rats was observed with Plumbagin. LD₅₀ effect of Plumbagin was found to be 8 mg/100g. body weight. There was slight reduction in eosinophil count with doses ranging from 0.5-2 mg./100gm. body weight. Studies on 2-hydroxy 4-methoxy benzaldehyde prepared from *Hemidesmus indicus* are in progress for the antibacterial and antifungal effect. Work on *Bacopa monnieri* is in progress.

The extract of *Inula racemosa* revealed anti inflammatory antipyretic and antispasmodic activity in different tissue and animal experiments. The drug showed protective effect against bronchospasm induced by a variety of agents. The drug has potential role in the treatment of human bronchial asthma.

A number of drugs like *Moringa pterygosperma*, *Cyperus rotundus*, *Leucas cephalotes*, *Nymphaea stellata* and *Withania somnifera*, were studied to evaluate their protective effect against experimentally induced liver injury by carbon tetrachloride. Guanidine-like activity is noticed in *Moringa pterygosperma*. *Zanthoxylum alatum* exhibited potent CNS stimulant in rats. The studies with petroleum ether extract of *Piper longum* revealed its analeptic potency. Piperine is used as a pharmacogno-

stic agent. This also possess potent central nervous system stimulant action.

Studies on alkaloid obtained from *Tylophora indica* revealed its antiasthmatic potentiality. *Desmodium gangeticum* investigated has been found to possess the bronchodilator, vasopressor, cardiac stimulant effects similar to indirectly acting catecholamines. It was found to increase the response of nonadrenaline on vessel perfusion. The alkaloidal fraction of *Desmodium gangeticum* was found to possess mild analgesic effect. The antipyretic effect was also observed. Analgesic effect of sapanin of *Achyranthes aspera* was found comparable to aspirin. Respiratory pharmacology of certain medicinal plants is in progress.

Pharmacological studies of the watery decoction of the stem bark of *Albizzia lebeck* and efforts are in progress to isolate the active principle located in this fraction. *Albizzia lebeck* in doses of 8-64 mg. produced dose-dependent vasoconstriction of systemic blood vessels of frog albino rat and guinea pig similar to that of adrenaline and barium chloride. Repeated administration did not produce tachyphylaxis. Pre-treatment of *Albizzia lebeck* potentiated the response of adrenaline and barium chloride. *Albizzia lebeck* exhibited protection of prolonged duration against histamine bronchospasm in guinea pigs.

Studies on Kutkin and its hydrolysed constituents—vanillic acid and cinnamic acid—on biliary secretion of dog were carried out. Vanillic acid in dose of 25 mg/kg. increased the bile flow to 167%. The peak effect was obtained after $\frac{1}{2}$ hour and returned to normal by one hour. The bile constituents were increased to almost double the normal values. Similar effect was observed with cinnamic acid but the effect is weaker than vanillic acid. Kutkin exhibited two fold increase in bile flow. The bile constituents increased by 200 to 250% establishing the Kutkin is more active as choleric agent than its hydrolysed constituents. Further studies on other parameters are in progress.

Pharmacological studies on chloroform extracted factor of *Acorus calamus* on anaesthetised cats as well as spinal cat preparations suggested the central action of the compound. Further its definite antagonistic action against ACH and histamine on isolated guinea pig ileum and marked relaxation of isolated rabbits jejunal segments, a dose dependent calming

effect on rats normal behaviour also suggested the central action of the compound. The detailed alcoholic extract of *Blumea lacera* is Ach like and may be of muscarinic in nature. A coded drug AYUSH-49 has been studied for its possible antiasthmatic effect. The drug inhibited histamine induced spasm by about 50% at a dose of 1 mg/ml. of bath fluid. In case of conscious rabbits, the drug at a dose of 2 mg./kg. administered intravenously significantly altered both rate and amplitude of respiration. The amplitude was increased two folds whereas the rate of respiration after a very transient fall, rose very slowly until both the rate and amplitude returned to normal in course of 40 minutes of time. This finding is likely to be useful in this study connected with bronchial asthma.

Toxicity studies are nearing completion in case of certain drugs that showed encouraging response at pharmacologic level. These drugs are expected to be taken up at clinical level when the pre-clinical studies are over.

6.13.0. Applied Drug Research

Studies on 85 cases that received ethyl acetate fraction of Guggulu (*Commiphora mukul*) on long term basis upto a maximum period of 143 weeks are in progress. Age, sex, clinical diagnosis and phenotyping was done according to WHO classification (1970). The serum lipid profile (Cholesterol, triglycerides and lipoproteins) was done twice before starting treatment. The assessment of vascular disease was also made simultaneously. During the course of therapy, the analysis of serum cholesterol and triglycerides was done periodically i.e. initially at a mean period of 5 weeks and subsequently at 10 week intervals. Assessment of vascular disease was also made separately. The analysis of the data upto a mean period of 95 weeks (91-100 weeks) revealed that the drug showed its effectiveness only after five weeks of initiating the therapy. The fall in serum cholesterol was found to be statistically significant (P.L.CO1) which was maintained throughout the course of treatment. Fraction A registered a more significant response than ethylacetate fraction when individual response was studied.

In case where fraction A was administered, the fall in serum glycerides start from eleventh week onwards. The fall is sustained during the course of the study but from 100th week there has been an insignifi-

ant serum triglyceride rise, compared to pretherapy levels, the fall is till significant (P<0.05).

Further aspects of the clinical trial with Fraction A of *Guggulu Commiphora mukul*) in cases of hypertipoprotcinemia emesis are under study.

Role of fresh juice of 'Panchang' of *Mamajjaka (Elicostemma litte-ale)* as hypoglycaemic agent was studied. Diagnosis of diabetes was by the criteria suggested by Fajans and Conn (1965). Biochemical and pathology investigations were carried out before commencement of drug. Significant fall in blood sugar together with improvement in symptoms was noticed. Except for nausea, vomitting and burnin sensation and diarrhea, no untoward symptoms were reported. *Bilwa (Aegle marmelos)* did not register any promising lead,. Seed power of *Jambu (Syzygium umini)* showed fall in blood sugar levels. Symptomatic improvement was variable. Trial with *Jyotishmati (Celastrus paniculatus)* in 4 ml. dose seem to indicate hypetensive potentiality. It is, however, not possible at this stage to confirm. *Pashanabheda (Bergenia ciliata)* has shown encouraging leads as a diuretic. Further studies are in progress.

Role of *Bimbi swarasa (Coccinia indica)* in the management of mild, moderate and severe cases of Diabetes mellitus was taken up for study. symptomatic cases which responded effectively with restricted caloric take and with any serious complications were excluded. The cases were treated for 3-6 weeks period and the response was recorded at varying intervals after glucose load. The drug action has been significant (P<0.001). The cross over study in cases treated with tolubutamide showed that the drug is relatively better to tolubutamide. Side effects in the form of nausea, vomitting diarrhoea, anorexia, flatulence with varying degree of saverity were reported in cases treated with *Bimbi*.

Studies on effect of *Kumari* in the form of *ghrita* in *sula* group of onditions, *asava* in *Peenasa* and *bol* in *Kashtartava* was carried out. The studies to evaluate effect of *Kumari* in *sula* and *Kashtartava* is being carried out on double blind method and analysis of data will be at the end of trial. Cases of *pæenasa* though are a few, seem to indicate beneficial leads.

Haritaki showed reduction in serum lipid levels without weight reuction in body weight. *Ativisha* was tried in cases of *abisara* and *graha-*

ni. Cases of *atisara* showed response to drug. *Nagakesar* has been useful in cases of *sweta pradara*. Trial with *Parijata* in *dridhrasi* has not provided data sufficient for assessment. However, further work is considered necessary. Trial with vasicinone in cases of *Tamaka swasa* is being carried out.

Study of effect of *Punarnava* in *sopha*, *shatavari* in *amlapitta*, *pari-namasoola* and *Kashtartava* were carried out. Final analysis of data will be made after further work.

Effect of *vibhitaki* in *swasa* and *kasa* was taken up for study. The drug seems to exhibit sedative effect. Further study is needed to assess its role in this Clinical entity. Role of *Pippali* as rasayana drug using body weight, haemoglobin and serum protein and albumen levels has been taken up. Useful role of tincture of *Karaveera* in cases of congestive cardiac failure has been established by Clinical laboratory and ECG data. Studies on *Gandhaprasarini* and *Bilwa* for their effect in *Sandhi-gatayata* rogas and *Krimi-rogas* respectively were carried out.

Studies on *Palash* revealed that it is useful in treatment of thread worm infestation. Due to side effects, the trial was discontinued. *Haridra* and *ghrita bhrashta haridra* (dose 8-16 gms. per day) was tried in *swasa* and *kasa*. The latter was found to be effective. The severity of dyspnoea and cough reduced and the expectoration was easier and quantity is reduced. An improvement of different physical signs was noticed. *Kantakari* in dose of 60-150 gms. per day in divided doses was tried in *sleshma pradhana* and *vatasleshma kasa*. The response has been promising.

Bharangi, identified as *Gardenia turgida* was tried in respiratory pathology with no beneficial effects and the trial has been discontinued. Further side effects like nausea, vomiting etc., also warranted discontinuance.

Studies on *Shati* in dose of 3-30 gms. per day in divided doses is administered in cases of tropical eosinophilia.

Effect of *Sirisha* in the form of *avaleha* in 25 gm. per day dosage in cases of *tamaka swasa* was studied. Clinical assessment and study of respiratory functions were the criteria for drug effect evaluation. The drug was found to have bronchodilator property. The patients reported

relief from cough and breathing difficulty. Reduction in the frequency of paroxysmal at-tacks and rhonchi was noticed. Improvement in vital capacity was observed.

Effect of *Suddhaguggulu* in dose of 6 to 12 gms. per day in divided doses for its hypolipidaemic potentiality was studied. Comprehensive lipid profile was done. After 3 months follow-up noticeable fall in serum cholesterol level with relatively mild changes in the lipid profile was seen. There was not much reduction in body weight.

Effect of *Varuna (Crataeva nurvala)* in cases of enlarged prostate was studied. The blood urea, residual urine and cystometrogram were done before the commencement of therapy. Bladdertone improved in majority of the cases and normotonic curve was seen. The residual urine decreased after six months treatment. General improvement in the presenting symptoms was also reported.

The Enquiry functioning at JIPMER has taken up to evaluate the role of exercise of different grades on lipid levels. Mild to Moderate exercise does not alter significantly any of these components except triglycerides. As a prerequisite for studies relating to effect of active principle of *guggulu* in obese, the relevant aspects like rate of removal of different fractions in normal healthy individuals is taken up. Studies to assess what happens to fat tolerance in serum of abnormal fat states especially in atherosclerosis and coronary heart disease has also been initiated. The trial with fraction A of *Guggulu* will be carried out on the foregoing clinical states.

6.14.0. Survey and Surveillance Project

The Mobile Clinical Research Unit functioning at Jamnagar has taken up collection of health statistic information of Dared, Chela and Vijarkhi. The initial study was conducted in about 3,200 individuals of these three places. The follow-up studies are in progress. The follow up study was over in 542 individuals of Dared. The medical facilities of any kind are not available at Dared; in case of other two one non-Ayurvedic practitioner visits the area daily. The common disease prevalent are *jwara kasa*, *atisara*, *netraroga*, *shirashoola*, *kar-naroga*, *udarasoola*, *vataavadhi* etc.

Folklore information is collected by the Unit.

6.14.2. The Mobile Clinical Research Unit, Kurukshetra commenced the initial study programme at Dhurala and now engaged in follow-up studies there. Work at Chipa has been taken up. There are two Ayurvedic practitioners at Dhurala and none at Chipa. The common diseases seen during the visits were *jwara*, *udarasoola*, *pratishyaya*, *atisara*, *sirasoola*, *karnaroga*, *kasa*, *vatavyadhi*, *pandu*. The Plants commonly seen in the area of operation are *Sirish*, *Agnimantha*, *Aswagandha*, *Raktapunarnava*, *Shigru Babboola*, *Meshasringi*. *Sankhapushpi*, *Jiwanti*, *Gokshur*, etc. Information on diet particular, habits, living conditions, etc. and folklore claims are collected. The study on effects of *Marichadivati* and *Madhuyashtyadivati* in *Kasa* and *Kasaroga* is in progress.

6.14.3 The Mobile Clinical Research Unit at Varanasi completed initial study and the 5th follow-up study is in progress at Chitapur. Work at Amara is in progress both at initial and follow-up levels. There is no physician in the area. The common diseases met with are *pravahika*, *vatatisara*, *jwara*, *pratishyaya*, *sandivata*, *krimijpandu*, *shirasoola*, *amlapitta*, *katishoola*, *visesha yoga* in cases of diarrhoea and dysentery without any other trouble is in progress. Clinical improvement was recognised. Laboratory investigations were also of help. The cases seem to be amoebiasis.

Further studies are in progress.

6.14.4 The fact finding team stationed at Vidisha carried on its programme in seven villages Vighan, Chhirkheda, Khari, Kharariya, Lashkarpur, Palon and Paho. Initial study was conducted in about 3,8000 individuals and follow-up studies are on. The prevalent diseases of the area were *kasa*, *vishamajawara*, *agnimandya*, *amlapitta*, *jwara*, *pradara*, *pandu*, *sandhivata*, *kandu*, *swasa*, *pravahika*, etc. Cholesterol levels were recorded in 35 individuals taking ghee regularly. This includes 20 vegetarians. Information connected with additions, diet habits folklore claims were also collected. Among the occupations, agriculture labour ranks high.

The Unit has been making efforts to meet the different objects of the programme.

6.15.0. Clinical Research

6.15.1 The report of Clinical Research Unit (Ayurveda) at All India Institute of Mental Health, Bangalore presents five hundred and thirty patients who were treated at out door and one hundred and seventy five treated in the in-patient ward. Improvement was observed in 118 patients.

This Unit started its work from June, 1971 with the view of adopting Ayurvedic principles in the field of clinical reserach on mental disorders. This study was first taken up on ksheerabala thaila was administered in psychogenic headache on the basis of a protocol. The study on the role of two ayurvedic drugs *Tagara* and *Brahmayadiyoga* was carried out on patients suffering from various types of *unmada* and the results are com pared with the popular antipsychotic drugs, chlorpromazine and with a group on placebo; and a double blind trial was conducted. This approach was started during 1973 and ccncluded during 1974.

136 patients of schizophrenia attended in out patient ward between age group 19 and 45 years. Out of 136 patients, 28 left against medical advice, and 108 patients completed treatment for two months.

At the end of the trial the information and progress relating to 108 patients was analysed and they were distributed as below :—

Treatment with <i>Tagara</i>	27
Treatment of <i>Brahmayadiyoga</i>	27
Treatment of Placebo	27
Treatment of Chlorpromazine	27

Result : *Tagara* : 27 patients were treated out of them 8 improved, 16 did not improve.

Placebo : 27 were treated, 9 improved, 16 did not improve.

Brahmayadiyoga : 27 were treated, 13 improved, 10 did not improve.

Chlorpromazine : 27 were treated, 14 improved 9 did not improve.

6.15.2. A detailed study at outpatient and inpatient Department has been made at Government Ayurvedic College and Hospital. Baroda to study the effect of *silajit* and *dhotrinisa* in the treatment of *madhumeha*. Previously this unit started the work on the following problems :—

- (i) Trial of *Asana* and *Silajit* in the treatment of *madhumeha*
- (ii) Trial of *Varuna* and *Ikshura kshara* in the management of *ashmari*. Due to non-availability of the drugs, *asana* and *varuna* in stead of these drugs *Dhotrinisa* was taken up.

Dhatri nisa treated group :

17 cases of *madhumeha* have been treated in the indoor patient department and 56 cases at outdoor patient department. They all had been treated with *Dhatri nisa kwath* and *swaras*. Out of 56 cases of *madhumeha* treated in outpatient department, 23 cases have shown partial relief 3 relieved by way of absence of sugar in urine, 7 were continuing and 23 discontinued treatment.

Silajith treated group :

During the said period only one case had been treated and the patient was given silajith.

Madhumeha patient treated with Suddha silajith clinically reported general sense of well being. This was tried in 1 case who has shown very little reduction in blood sugar.

6.15.3 The progress report of last year of the work done at Clinical Research Unit (Ayurvedic) of dietetic studies unit at R.A. Podar Ayurvedic College, Bombay showed twenty nine cases of *Sopha* that were given milk diet, 38.1% of them had showed complete relief. The milk diet was given to the patient of *Udara roga* and results showed complete relief in *pittaja udararoga*. In case of *parinamasula*, 100% of cases were found to be benefitted. *Takra ahara* was given to *grahani*, *atisara pravahika* patients and all were cured.

This Unit has taken pilot study of clinical trials and methodology of investigations adopted for a particular diet in specific disease. The following dietetic articles are made use of in trials.

- (a) Milk,
- (b) *Java (Hordeum vulgare)* Kodrava (*Paspalum scrobiculatum*),
- (c) Butter Milk,
- (d) *Kulatha (Delichos biflorous)*,
- (e) *Masha (Phaseolous mungi)*,
- (f) *Rajmasha (Vigna catyung)*.

Milk :

The trial of milk was taken in cases of *Sopha* (general anasarca) and *Udara roga* with *Jalodarawastha* (Ascites). Total of 71 cases were treated and among them 60 cases were of *udara roga* and 31 of *sopha*. Out of 60 cases, there were different kinds of *udara roga* i.e. *vataja*, *pittaja*, *kaphaja* and *udar roga* and there has been generally good improvement in 13% of cases and 44.45% cases showed fair improvement. Remaining 31 cases of *vataja sopha*, *kaphaja sopha*, it is observed that 37.5% cases shown good response.

Butter Milk :

This diet is suggested for *grahani*, *Pravahika*, *Atisar*.

The results on work done are *grahani* indicates that one case of *vataja grahani* and two cases of *pittaja grahani* showed fair improvement. Three cases of *pravahika* were treated and one left against medical advice and the remaining two showed poor response. Two cases of *Atisar* which were treated showed good improvement.

Java (Hordeum Vulgare) and Kodrava (Paspalum Scrobiculatum) :

Nine cases of *Madhumeha* (Diabetes mellitus) were given *java kodrava* and no significant hypoglycemic activity was observed. Two cases of *kaphaja sotha* (Nephrotic syndrome) were given *jawa* and results showed its effects on high cholesterol values in blood, one of the two left against medical advice.

Kulatha (Dolichos biflorous) :

Two cases of *sakhasrita kamala* (Infective hepatitis) were given *kultha* and there was elevation in S.G.O.T., S.G.P.T. and serum billirubin values. Out of two cases one case left against medical advice and another

showed poor improvement. Three cases were given kultha to observe its *raktapitta karatwa* and result could not be assessed for want of laboratory requirement.

Masha (Phaseolous munge):

26 cases in the age range of 20 to 25 years were given this diet. The criteria of selection for assessment was estimation of 17-ketosteroids in 24 hours urine. The control group was administered *rajamasa (Vigna vatyung)* as regular diet. Out of twenty six, three cases left against medical advice and the remaining twenty three had complete treatment.

It is observed out of 23 cases, in 21 cases values of 17 ketosteroids were increased after trial and in the remaining two cases values of 17 ketosteroids decreased. The increased value of 17 ketosteroids in 24 hours urine were within normal limits. The Unit has submitted the working paper.

6.15.4. Clinical Research Unit (Ayurveda), Bombay. A total of 36 cases were admitted in Panchakarma ward at R.A. Podar Ayurvedic Research Institute, Bombay. Out of these 12 left against medical advise, 2 transferred to other hospital for treatment of tuberculosis. Remaining 22 cases were given the treatment as usual. Out of these 22 cases, 5 patients also left against medical advise after *shamana* treatment and one discharged because he was not able to take *Panchakarma* treatment. Only 6 cases were treated for the full course of treatment. First of all cases were kept on control and then given *snehana* and *swedana*. After completing the *snehana*, *swedana karma*, these patients were given *shamana chikitsa*. For *shamana* treatment *Yogaraj guggula* and *Rasnadi* given for two weeks and then they were given panchakarma treatment.

Effect of Vamana:

After compilation of above work, the patients having *Pakshavadha* (5 cases) were given *vamana* treatment. The drugs *Dasamula ghrta*, *Tikta ghrta Kumari ghrta Triphala ghrta* and *Nirgundi ghrta* were given for internal *snehapana*. This process continued till *samyak snigdha laks-hanas* appear. The dose is started from small quantity and raised upto 45 ml. After completion of *snehakarma*, *vamana chikitsa* was induced.

The drug used for *vamanakarma* is *Madanphal* in the dose of 50 grams in 1600 ml. of water. The *kwatha* reduced to 1/4 was given for drinking along with 30 ml. of honey and rock salt. Out of 5 cases, treated with *vamana* 2 showed improvement in the limb movements, two had general improvement and one did not show improvement.

Effect of virechana :

After completing the above process, all the cases were given *virechana* treatment. The drug used for *virechamakarma* is *trivrtmula churana* and is given in the dose of 10-15 grams with four ounces milk at night. After this process, the patients are kept on the *Sansarjan Karma*. The effect of this treatment showed that two had improved, two showed general improvement and one did not show any improvement.

Effect of Vasti :

After completion of the *virechankarama vasti* is induced. Three types of *vasti* are used.

1. *Niruha vasti*
2. *Anuvasana vasti*
3. *Sirovasti*

The *Niruha vasti* contains :

- | | |
|---------------------------|--|
| 1. <i>Sneha</i> (Oil) | 4. <i>Prasthas</i> |
| 2. <i>Honey</i> | 3. <i>Prasthas</i> |
| 3. <i>Kalka</i> | 2. <i>Prasthas</i> |
| 4. <i>Saindhav lavana</i> | One <i>Karsha</i>
12 <i>prastha</i> |

After completion of *niruha vasti*, *anuvasana vasti* is given containing the following drugs.

1. *Sahachara* oil
2. *Balamoola* oil

3. Pippalyadi oil

4. Dasamoola oil

Total of 8 cases were tried with this karma and of these four showed improvement in limbs and one had general improvement; two showed no change and remaining one is under treatment.

Sirovasti has also been taken up by this unit as a pilot study to study its effect in the treatment of *Pakshavadha*. One patient was given the treatment. He reported general improvement.

Effect of Marsa nasya:

The patients of *pakshavadha* treated with above therapy were also given *Marsa nasya*. The drug used is *Mashadi taila*. This was continued for seven days on alternate days. Patients showed improvement in general and in the limbs.

Effect of uttarvasti in yonivyapat :

Further this unit has also started to work on uttar vasti in the treatment of *Yonivyapat*. Total of 55 cases have been studied so far. They all were related to the sterility of various-types. The drug used for this vasti was *Narayana Taila* in general. *Kashmiri kutaja ghrita* was used for the treatment of *Arajaska Yoni*.

6.15.5. The Clinical Research Unit at Government Ayurvedic College, Hyderabad took the study of the effect of *Amasaya Sodhan Therapy* in the treatment of *Parinamasula*. The drug *Varuna Kwath* was used for this purpose. A total of 44 patients were treated. It has been observed that *Varuna kasaya* (in the form of *Amasaya Sodhan*) in the treatment of *Parinamasula* was encouraging to some extent.

It has been suggested to take up study of the effect of Ayurvedic Drugs and Panchakarma therapy in the management of *parinamasula* in this unit. The drug *Narikel lavan* and *Sambukadi gutika* are to be given for treatment. The unit has been advised to have the following groups of treatment :-

1. Single drug treatment group.
2. Compound drug treatment group

3. Single drug with Panchakarma treatment group.
4. Compound drug with Panchakarma treatment group.
5. Control group for each.

During the period of April, 1974 to March, 1975 two types of studies have been done.

Of the total 44 cases of *Parinamasula* admitted, 33 patients could only be assessed. Of these 33 cases, 19 were treated with *Amasaya Sodhana* therapy and remaining 14 were treated with *Narikela lavan*. The various laboratory and other investigations were done to assess the effect. The observations were recorded as following :-

Total cases	Amasaya Sadhan Therapy	Single drug treated group (Narikala lavan)
33	Full relief	12
	Partial relief	3
	Total	12
		21

6.15.6 The Clinical Research Unit at Aryavaidyasala Hospital took to study the effect of varunatwak kwath in the management of parinamasula. The Unit was advised to follow plan of treatment approved for *Annadravasula* and *Parinamasula* with Ayurvedic drugs and panchakarma therapy. The drugs *madhuyasti choorna* and *tiladigutika* were also given for clinical evaluation. The unit was directed to work on the above drugs along with the panchakarma treatment. The following groups are to be maintained :-

1. Single drug treatment group
2. Single drug + panchakarma treatment group
3. Compound drug treatment group
4. Compound drug + panchakarma treatment group
5. Control group for each.

During the period under review, 118 patients with pain in the abdomen were selected from O.P.D. and were admitted in the research ward of the hospital. After careful examination on the basis of *nadana panchaka* the patients were divided as here under:-

Group I: Single drug treated group :

In this group five patients were treated with *Madhuyasti choorna*. The dose of the drug administered was 3 gms. 3-4 times a day with honey. Out of five cases treated, four reported complete relief and one did not show any relief.

Group II: Compound drug treated group :

In this group nine cases had been registered and they were given *Tiladigutika* in the dose of 5-10 gms 3 times a day with milk. Out of nine cases, 7 got complete relief and two showed no relief.

Group III: Single drug + panchakarma chikitsa :

In this group 47 cases were treated; they were given *Yastichurna* along with *Panchakarma* therapy. *Sahachar tail* was given as *Anuvasana*, for 3 to 7 days. On 3rd or 4th day, 20 ml. *eranda tailadi yoga* was given for *virechana*, and the same was applied on the abdomen externally. Out of 47 cases, 34 reported complete relief, 6 partial relief and 7 no relief.

Group IV: Compound drug + panchakarma treated group :

In this group of treatment, total of 55 cases had been registered and they were given *tiladi gutika* with the *panchakarma* treatment. The method was followed as indicated in group No. 3 above. Out of 55 cases, 25 reported complete relief 10 partial relief and 18 did not show relief.

Group V: Control drug treated group :

In this group of treatment, 2 patients were given glucose powder in the dose of 2 gms, 4 times a day. On the completion of the treatment it was observed that there was no

effect on the patient suffering from *parinamasula* and *annadravasula*.

Further study on the above principle oriented plan is needed to consolidate views.

Total of 37 patients of *amlapitta* and *Parinamsula* were studied using the *Amalakichoorna*, *Samudradichoorna* and *Samkhabhasm* passed on disease demand at A & U Tibbia College, New Delhi. Of the 37 patients, 23 were diagnosed as *Amlapitta*, 7 were as *Annadravasula* and rest as *parinamsula*. The results are encouraging. The Unit also compiled the Literary work on these problems after consulting 60 books is reported. They have been advised to submit the compiled material.

6.15.8. The management of *Pattik kshudra kushta* with special reference to its treatment with *sodhan* therapy was taken up for study at Clinical Research Enquiry at Ahmedabad. The enquiry came into existence in the year 1971.

The patients suffering from various types of *pattik kshudra kushta* are admitted in the hospital and they are kept on placebo medicine for a week. After that, *snehan* is given for this purpose. *Panchatikta ghrta* in the dose of 20 gm. was used, after this procedure *virechana* was given with the drug *Icchabhedi rasa* in the dose of one *masha* once a day. The same procedure was repeated for another 2-3 weeks. During the treatment period, observations are recorded and the improvement in the symptoms are noted.

Since inception upto December, 1974 only 162 cases of various types of *kshudra kushta* had been treated so far and results were encouraging. During the reporting period only 27 cases have been treated. Out of these 27, 9 are referred as *Prasham*, and in case of three, certain suggestions are required, two are still under treatment. Remaining 13 could not be continued the treatment.

6.15.9. This clinical Research Enquiry at M.A. Govt. Hospital, Ahmedabad has taken up to study of the effect of *vastikarma* in management of *sula roga*. *Kranda muladi vasti*, *rajayapana vasti* were selected in this programme. Since inception to the reporting period they have

studied 175 patients. In addition 10 more patients were also studied during the year ending December, 1974. Out of 10 patients, two patients were treated with placebo medication. Eight patients were treated with *ksheera vasti*. Out of 8 patient, two patients left against medical advice. Out of six patients one was cured and five were relieved.

Besides the study of effect of *vasti* on *sula* the enquiry also studied 30 cases of polio-myellitis from March, 1974 to December 1974. The results were encouraging.

6.15.10. Vermifuge activities of *kampillaka*, *paribhadra* and *anannas* have been studied at Government Ayurvedic College, Lucknow. In a total of 219 cases, *kampillaka* was given to 19 cases, *paribhadra* to 119 cases and *anannas* to 81 cases. Although all the three drugs indicated symptomatic relief as well as the reduction of ovas/cysts in themicroscopic examination of the stool specimens yet it is worth indicating that *anannas* treated cases specially against the round-worm were the one largely benefitted.

Microscopic examination of the stool specimens was done to detect the presence or absence of the ovas/cysts on different intervals, i.e. after 7, 15 and 21 days.

In the first group, 19 cases were treated with *kampillaka* powder in a dose of 30 mg/kg. body weight in two divided doses with honey daily. Constipation flatulence and pain in abdomen, etc. were also relieved.

In the second group, 119 cases of *paribhadra* were treated in two sub-groups, (a) with fine powder of the stem bark of *paribhadra* in a dose of 60 mg/kg. body weight and (b) with juice of *paribhadra* leaves in a dose of 50 ml. of the 113 cases of sub-group 'a', 18 cases were found improved and 64 remain unchanged. The analysis of the cases revealed that seven cases of ascariasis of which two showed symptomatic relief and five reduction of ovas strength in the stool. Giardia affected 3 cases, one case showed symptomatic relief and 2 cases showed reduction of cysts in the stool. Eight cases were found to have combined infestations. Out of them 5 cases showed symptomatic improvement and 3 showed reduction of ovas/cysts in the stool specimen. All the 6 cases of sub-group 'b' showed no improvement at all as they could be followed up only for one week.

In the third group 81 cases were treated with fresh leaves juice of *anannas* for a period of 7 days in a dose of 25 ml. twice daily with honey. Only 11 cases improved and remaining did not exhibit any change.

Although, all the drugs have shown effectiveness in treated cases, however, the improvement offered by *paribhadra* cases is of encouraging.

6 15.11. The enquiry at Ayurvedic College, Gurukul Kangri registered 313 patients with thyroid swelling and approach to treatment was based on ayurvedic texts. During the period from April, 1974 to March, 1975 total 108 patients were registered and this figure is also included in the study of 313 patients. Most of them were female patients in the age group of 11 to 30 years and were using tap water for drinking purpose. Out of the 108 cases recommended to current period, 69 dropped in between, only 39 completed the full course of treatment.

The factors responsible for producing this diseases are *vayu*, *kapha* and *meda*. In some cases, the history of heredity, psychological trauma seem to play some role in causation of the disease.

Patients were divided into three groups according to medicine as under :—

1. *Kanchanar guggulu* group— *Kanchanar guggulu* in a dose of one tola per day was given to 13 patients. Out of 13 patients, 4 showed recognisable improvement, 6 improvement, 2 slight improvement, 1 no improvement.
2. *Silajitu* group— *Silajitu* in a dose of 1 masha per day was given to 14 patients. Out of 14 cases, 3 showed slight improvement while the rest did not show any improvement.
3. Lugols Iodine group. This drug twice a day for three months was given to 12 patients. Out of the 12 cases, 1 showed much improvement, 9 improvement, 2 slight improvement. Overall study of drugs showed that *Kanchanar guggulu* and lugol's Iodine are equally effective while *silajitu* is not of much benefit.

6.15.12. The unit at Rishikul Ayurvedic College, Hardwar started trial of *mahatriphala ghrta*, *Saptamrta lauh murchita ghrta* and glucose filled capsules in *Timira* since its establishment.

Total of 316 cases were registered of which 207 were male and the remaining were female patients having vata, kapha and pitta factors. The age group of most of the patients was between 17 to 34 years and most of them are from vegetarian group. The patients were classified into six groups as under :—

1st group of patients were given *Mahatriphalu ghrta* (5 gms. of ghrta B.D. for 15 days).

2nd group had *Saptamrta lauh* (1 capsule of *Saptamrta lauh*) (weighing 900 mg. T.D.S.).

3rd group had *mahatriphala ghrta* and *saptamrta lauh*.

4th group of cases were administered *murchit ghrta*. (5 gms. to be taken twice daily on empty stomach with milk).

5th group of control cases were treated with glucose filled capsule (one capsule thrice daily).

6th group of cases were administered glucose filled capsule plus *murchit gharita*.

Out of 316 cases, 139 dropped in between and 149 completed the treatment for prescribed period ranging between 2 and 4 months. Out of 149 completed cases, 66 were treated with *mahatriphala ghrta*, 19 with *saptamrta lauh*, 42 with combined treatment of *mahatriphala ghrta* and *saptamrta lauh* and 18 cases with *murchita ghrta* and the four control cases with glucose filled capsules.

The results in all the cases were encouraging except in the 2nd group treatment.

6.15.13. During the period since its inception to March, 1975, 82 cases of *madhumeha* were treated in out patient department and one case was treated in the in-patient ward by the Enquiry at Govt. Ayurvedic College, Jammu. The duration of in-patient case was about two months and

the improvement was in the form of relief in the complaints like *prabhut mutrata* (polyuria) *atipipasa* (polidipsia) and *atikshuda* (polyphagia). Some of the cases showed satisfactory progress in terms of the sugar percentage in the urine gradually. During the trial period in some cases it was found the side effect of *vijaysar* was constipation.

6.15.14. The enquiry at State Ayurvedic College, Lucknow started to study the efficacy of *Arogyavardhani* on *medaroga*. Total 194 cases were registered upto December, 1974.

In the preliminary study which lasted upto 31st April, 1973, *Arogyavardhani* in the dose of two pills T.D S. (7.3 gms daily) was given to 60 cases. Out of 60, 30 took medicine regularly and the rest did not continue the treatment. The medicine was found to be effective specially in lowering serum cholesterol.

Double blind study started from 1st May, 1974 to 30th April, 1975 wherein a total of 63 cases were registered during this period. The study was conducted by dividing them into two groups 'A' group as control and 'B' as trial group. In each group there were 27 cases. The remaining did not participate in the trial. In group 'A' none of the cases reported even partial relief whereas in 'B' group there was relief in all the symptoms. The serum cholesterol reduced significantly in 22 cases out of 27. The reverse study also confirmed that the trial medicine is successful in lowering the serum cholesterol whereas not effective in *medoroga*.

During the period from July, 1974 to December, 1974, 34 cases were registered and out of them 11 cases only continued the treatment. It is being planned to continue the trial medicine with *Mahamanjishthadi kwath* as *anupana* to assess its role.

6.15.15. This enquiry at Arignar Anna Govt. Hospital Madras took up to study of the effect of *snehana* and *sodhana* in the treatment of *pakshavaha*, *apabahuka* and *gridharasi*. The course of the treatment was decided to be 21 to 28 days. The patients were divided into 3 groups as below :—

A. *Snehana*, *sodhana* and *samana* group

B. *Snehana* and *samana* group

C. Samana group

Since inception, 129 cases had been studied and it is proposed to study 30 cases of *gridhrasi* and 21 cases of *apabahuka* to complete target of 180 cases.

The cure of *vatavyadhies* with *virechana* and *vasti* refers to *pancha-karma* therapy. Diseases like *pakshavadha*, *ghridhrasi* and *apabahuka* were divided into three groups viz. (A) *Snehana*+*Sodhana*+*Samana* (B) *Snehana*+*Samana* and (C) having *samana* alone.

In case of *Snehana chikitsa*, *ksheerabala taila* (medicated with *masha* or *guggulu* or *guduchi*) and *sataphala* of *ghrta* were given. In case of *sodhana chikitsa*, *vasti* and *nasya* and in *samana gandharvaha-stadikashaya* was preferred. Sometimes *mrdu virechana* was administered.

During the period under review 90 cases of *pakshavadha*, 19 cases of *gridharasi* and 6 cases of *apabahuka* were studied. The results are encouraging.

Normal values of *gamana kalam* and *grahan sakti* were studied in 400 healthy persons of the city of different age group sexwise. The work is in progress.

6.15.16. The clinical research enquiry on studies on *prakriti* of disease proneness in progress at Tilak Ayurveda Mahavidyalaya, Poona was set up on 1st February, 1971 to study the problem in relation to *dosha prakriti*. It is presumed to be the basis of etiopathological concepts of ailments, which govern the physical physiological, pathological and psychological aspects in health and disease condition of an individual. This study includes two groups.

1. Study of healthy individuals
2. Study of patients.

Study of healthy individuals include the study of *prakriti* and relation between *dosha prakriti* and disease proneness as well as to evaluate an objective criteria for *prakriti* study with special reference to blood groups.

Study of patients include study of *dosha* prakriti according to the present illness.

Under the study of healthy individuals, 413 cases of different age groups from both the sexes have been studied and analysed. The prakriti for vata, pitta, slesma are 103,49 and 261 respectively. Out of these 413 cases, 159 cases were found prone to recurrence of earlier diseases and 254 cases were not found prone to the previous diseases. Out of such 159 cases, 37 cases belonged to *vataja* since 26 cases showed proneness to *vataja* roga. 9 cases to *pittaj* and only 2 showed proneness to *kaphaj* roga. Similarly, 26 cases among *pittaj* prakriti were analysed 4 cases showed proneness to *vataj* roga. 15 cases of *kaphaj prakriti*, 7 cases to *slesma* roga. Out of 96 cases of *kaphaj prakriti* 16 cases showed proneness to *vataj* roga, 22 to *pittaj* roga and 58 to *kaphaj* roga.

Data on cases studied with reference to other groups are as below:—

Prakriti	A	B	AB	oo	Total
Vataj	20	7	2	9	38
Pittaj	1	2	0	3	6
Slesmaj	23	4	11	10	38

It was concluded that no definite relation exists between blood groups and dosha Prakriti.

6.15.17. The enquiry at Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University is engaged in the study of the pathogenesis of *yakrit roga* and *kamala* with special reference to its treatment with *kutaki* and *kutaki* compound. During the study of 3 years, 212 patients of *kamala* and *yakrit rogas* had been studied so far. The results of this study showed that *kutaki* compound is useful drug for the treatment of *koshtasrita kamala* (Hepatocellular jaundice) and *yakrit dosha* (Ch. hepatitis). Last year in the month of January, 1974 new drugs i.e. *Daruharidra* and *Kumariasava* have been entrusted on the recommendation, of Scientific Advisory Board (Ayurveda).

The two new drugs have been taken for trial on the patients of jaundice and liver disorders.

Daruharidra was given in the decoction form. The fresh decoction from the 50 g. crude *daruharidra* was used in the form of Kashaya and administered orally in two doses. Other drug *kumari* is being used in the form of *asava*. The dose of *asava* is 20 ml. two times a day. Total 17 patients of different liver diseases have been studied during the period of six months of different age and sex. The physical examination and liver function tests were being carried out including blood, urine and stool tests.

Out of 17 patients, 5 were of *koshthasrit kamala*, three of *shakhasrit*, two of *yakrit dosha*, 1 of *Kumba kamala* one of post infective hepatitis one of cirrosis of liver remaining four who were treated with *kutaki* compound and as control but followed.

The patients treated with *kumari asava* and *daruharidra kwatha* were found to have improved.

In addition to this clinical research experimental research is also being done in this enquiry. Results are encouraging.

6.15.18. The enquiry of the following subjects was taken up at department of Salya of the Institute of Medical Sciences, Banaras Hindu University.

- i) Standardisation of treatment of anoractal disorders (*asra* and *bhagandara*) by *kshara sutra*.
- ii) Standardisation of principles and techniques of *nasya karma* in Ayurveda.
- iii) Studies on the efficacy of some ayurvedic drugs in the treatment of wounds with reference to *sodhana* and *ropana*.

During the period under review 2458 cases attended the clinic. Out of these, 1086, 1083 cases were of *arsas*. 80 *bhagandra* cases were treated by *kshara sutra* (*udumbarakshara sutra*). 50 have completed the treatment and 3 are still under treatment. No recurrence was reported other *kshara sutra* varieties. *Arka* and *nimba* varieties possess a relatively higher U.C.T.*

* The time taken for cutting and consequently the healing of one centimeter of fistulous tract by an individual and taken as the baseline for comparison.

The patients were further grouped according to their prakriti (i) *vatika* (ii) *paittika* and (iii) *sleshmika*. The only large group of *apam-arga* variety consisting of 450 patients was found most effective in the *sleshmika prakriti* patients for other groups more cases should be studied for arriving at definite results.

In case of *arsas kshara sutra* was adopted only in a limited number of patients during the current year. Conservative treatment (*Bheshaja*) was also applied in a limited number of patients. *Agni karma* was resorted to in cases of *vataja arsa*.

Study reveals that *tiksana kshara* is very much effective in bleeding piles. It should not be applied in pitta prakriti patients as its application caused prolapse and thrombosed pile maas after inflammation. Various investigations were carried out to assess the role of *agni* of patients.

2. Preliminary work on the standardisation of principles and techniques of *nasya karma* showed that small animals like guinea-pig, rats etc. do not react satisfactorily to *nasya karma* induced by *tiksana* drugs (*maricha. sunthi*) except some watering from nose and eyes. Large animals like dogs, exhibit sneezing.

Further study on the patients of chronic headache and sinusitis, revealed that *nasya karma* had better effect like inducing sleep, less evening pain and maintaining wakefulness than the untreated cases. *Shadbindu taila* showed encouraging results in the cure of two cases of allergic rhinitis and sinusitis of long duration.

3. 144 albino rats of wounds with involvement of *twaca mamsa* and *asthi* as their *adhithanas* were selected for study. Fresh *snuhi* latex was tried by applying locally for 2-7 days which showed encouraging results. Screening of all the available *sodhana* drugs in a planned manner of proposed for further study.

6.15.19. Clinical Research Enquiry for the 'Role of Varuna, kulatha and Goksura in the management of urinary calculus was taken up at Department of Salyatantra, Institute of Medical Sciences. 680 cases belonging to the different diseases were studied. Out of them the maxi-

imum number of patients were of *ashmari* and diagnosed as renal calculus, ureteric calculus and vesical. Patients were treated with kwath of the drugs i.e. *varuna*, *kulatha* and *goksura* in a dose of 2 tolas twice daily. *Ghan satwa* of these drugs were administered in the form of pills or capsules. The following results were drawn from the study made so far.

- (i) *Varuna kwath* tones the bladder and musculature of the whole urinary tract.
- (ii) It relieves burning and frequency both. *Kulath kwath* cures the *sharkara* within a month or two. It also prevents increase in the size of the stone.
- (iii) *Goksura* is helpful in treating acid urine cases by promoting diuresis.

During the period of 6 months, 54 cases newly admitted and were studied besides 278 old cases. New cases belonging to *asmari* (12) *sharakara* (3) *asthila* (9) *mutra krichhra* (18) and miscellaneous (12) *Asmari* patients were diagnosed as of having either renal stone, ureteric stone or vesical stones. The number of cases are two, six and four respectively. One patient passed the ureteric stone and in four it descended down, when treated with a combination of *varuna kwath* and *kulatha kwath* in a dose of 2 tolas twice daily. Others were relieved of the symptoms. *Sharakara* patients were also treated with the above *kwath* and relief was referred. *Asthila* patients were given *varuna kwath*. Symptoms of cystitis were relieved while no change was observed in *asthila*. *Varuna kwatha* was found effective in the treatment of *mutrakrichhra*; 18 patients treated with were free from their symptoms.

6.15.20. Clinical and experimental trial of *guggulu* in *medoroga* conducting experimental studies on nine (IX) models of experiments have been taken up by Kayachikitsa Department of Institute of Medical Sciences, Banaras Hindu University. Effect of *guggulu* extract in different solvents such as petroleum ether extract of *guggulu*, principle of gum *guggulu*, extract of *guggulu* and were studied on hypercholesterolemia, hyperlipidemia, atherosclerosis, phospholipidaemia, body lipids, endocrine glands etc. in white chicks and other laboratory animals was also studied. It has been found that it has an hypocholesterlomic and hypalipidemic activity. The drug has action against endogenous hyper-

hypercholesterolemia; the mode of action of this drug appears to be through the thyroid gland.

Medical trial :

Diagnosis of obesity was made with the help of height and weight and patients were divided into three groups (1) moderately overweight (2) obese (3) seriously obese and further they were classified according to their ailments such as simple obesity, obesity with arthritis also on along with their fasting blood lipidograms in each case. Patients were then divided in three groups. Group I was kept on placebo, Group II on crude gum *guggulu* 16 g. per day in divided doses and Group III on P. E. extract of gum *guggulu* equivalent to 16 gms. per day. Patients belonged to both the sexes and from different age groups. 50 patients were studied. Out of 50 treated cases, 28 were male and 22 female and the fall of serum cholesterol was 66% in males and 40% in females. The higher age group patients responded better.

It has been observed that gum-*guggulu* is capable of reducing the serum cholesterol triglyceride phospholipid level in human beings also, as observed in the experimental studies. Hence it is anticipated that the complications of lipid disorders i.e. atherosclerosis and coronary thrombosis may also be prevented and it may be helpful in their regression.

21. Study of relation *Jataragni* to *dhatwagni* was taken up at Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University and the work was carried out as below :—

a) Experimental studies :

i) The effect of predigested protein feeding on body weight, serum protein, D-Kylosze, absorption of I 131 uptake, epithelial cell height of thyroid and 17-ketosteroid excretion in experimental malabsorptions syndrome produced by pancreatic duodenal ligation in male albino rats.

ii) Effect of Tyrosine (Tyr) Potassium Iodide (KI) and Tyr+Kion on body weight serum protein, I 131 uptake, follicular epithelial cell height of the thyroid and 17-Ketosteroid excretion in experimental malabsorption produced by pancreatic duct ligation in male albino rats.

b) Clinical studies :

Further trials to assess the clinical improvement after the administration of *takrarista* in 40 patients have been under study and the following improvements were found.

i) In Gastro-Intestinal function :

1. Worms especially giardia were found to be absent.
2. Weight gain by 2 kg./month
3. Improvement in appetite
4. Improvement in microvilli of the jejunum on the histological examination.

ii) Endocrine function :

1. Thyroid function I 131 uptake % was increased as compared to before treatment.
2. Adrenal function, 17-Ketosteroid excretion mg/24 hours of urine was found to be more showing the improvement after treatment.
3. Jejunal biopsy was done and its histological study is in progress.

The results of the clinical trial is under evaluation.

6.15.22. The enquiry at Institute of Medical Sciences, Banaras Hindu University, Varanasi deals with studies on Rasayana and certain other rejuvenative measures such as “*Yoga and panchakarma.*”

Four *medhya rasayanas* described by *charak* i.e. *mandukaparni*, *yastimadhu*, *guduchi* and *sankhapuspi* have been studied experimentally on albino rats using simple parameters in the form of barbiturate hypnosis potentiation test and determination of brain tissue neurohumors

In this context two sets of experiments have been conducted (1) short term programme by giving simple I.P. injection of a suspension of dried watery decoction of the trial drug in a dose of 50 mg. of total extract

100/gm. body weight and compared with control group (without drug and chlorpromazine 2.5 mg/100mg. body weight. I.P. results showed that *sankhapuspi* and *guduchi* enhance, barbiturate hypnosis (ii) long term programme with oral feeding of the decoction of trial drug in a dose of 1 ml. of decoction in a strength of 50/mg/100gm. body weight for 15 days. Results indicated that *sankhapuspi*, *guduchi* and *manduk-parni* enhance barbiturate hypnosis.

On the basis of experimental trials preliminary clinical trial in a group of patients of anxiety neurosis was made. The drug *brahmi* in the form of *avaleha* in a dose of 10 gm. daily in divided doses was given to 20 patients. Most of the patients reported symptomatic relief, but all the patient could not continue the treatment and only about 50 cases have been studied with encouraging results showing improvement in their clinical/physical, psychological and biochemical aspects.

Under this head study on *Naimittik Rasayana (Amalaki Rasayana)* in patients of *parinamasula* and *Amlapitta*, 6 patients have been studied. Cut of 6, only two patients had radiological evidence of peptic 2lcer. All the six cases showed clinical improvement.

With regard to yogic aspect a comparative study in young people to study in-difference in action of Yogasanas and physical exercise had been taken up. No significant difference could be observed. Biochemical studies on seven volunteers undergoing a 10 days camp of a Buddhist system of Meditation (*Vipassna*) shows that meditation caused both physical and mental calmness with increased mental alertness. The neurohumoral as well as plasma cortisol studies confirmed the findings.

Another study carried out was to find suitable objective parameter for the assessment of *deha prakriti*. In this enquiry it has been observed that subjects of *vatika*, *paittika* and *kaphaja* constitutions have a predominance of acetylcholine, catecholamine and histamine respectively in their blood.

6.16.0. Literary Research :

6.16.1. The activities of documentation centre during the period under review are as below :—

- i) Technical section**
- ii) Library maintenance**
- iii) Photographic section**

For the purpose of working convenience, the activities are categorised as below :—

(i) Technical Section :

This section is engaged in the compilation of research information on 325 medical plants approved by A.P.C. 24 books have been referred and material relating to synonyms, therapeutics, botany, pharmacognosy chemistry, pharmacology, clinical trial and drug standardisation in a sequential order have been collected. In addition to this, bibliography relating to 3,900 articles in different systems of medicine have been red. A technical record section is created for the collection of the scientific reports and research material periodically sent. Screening and classification of the technical/research reports on the basis of the subject and problem is in progress.

Preparation of the proceedings of the first Scientific Seminar of the Council for publication and arrangement of an exhibition in the Seminar on "Yoga, Science and Man" for display of rare and out-standing books on Yoga are other works taken up by the section. Bio-data of a number of the scientists of Ayurveda, Siddha Yoga, Unani and Homoeopathy are being collected and maintained with a view to publish separately.

300 herbarium sheets and 300 drugs samples are being preserved for general information and identification. Miscellaneous enquiries of scientific nature are processed and replied. Compilation on 75 diseases in ten regional languages was also made.

(ii) Library Wing :

A special reference library is being developed to meet the demand of medical scientists having interest in the field of Indian Systems of medicine and Homoeopathy. The library has 4000 books and 160 journals are being obtained regularly according to periodicity. 208 books

have been classified and 39 are catalogued in addition to the 370 classified and 2000 catalogued books. 91 reprints, 47 reports and 30 research papers are available. News items of medical information from newspapers covering all possible topics are also arranged. At present such collection has gone up about to 5,000. Steps are in progress to classify these. The library service like issue of the books and journals to the staff members and interested persons is in progress. The reader strength so far is about 5000.

The books in the library on Indian Systems of Medicine and Homoeopathy are classified according to the classification schedule prepared by adopting a new method considered useful in the process of the classification and cataloguing of these columns.

(iii) Photography Wing :

Photography section has developed micro-filming ordinary photographs (black and white), projection slides, colour exposing, photo micrography, etc. During the period under report 8,440 pages have been microfilmed.

So far, 60 ft. micropositive films have been prepared. 1250 black and white photographic films and 5034 black and white printing in addition to copying of 163 single pages was done.

Fifteen charts, thirteen diagrams, 176 projection slides and 431 subject headings were prepared.

The Unit assisted in other activities related to Drug Standardisation Unit, Hamdard Dawakhana, New Delhi, Seminar on Yoga, Science and Man, New Delhi and International Seminar on Ayurveda, Patiala,

6.16.2. The Indian Institute of History of Medicine prepared the following articles in Ayurveda.

1. Netradarpanam
2. Nadidarpanam or Naidanam
3. Bhiswagaranjan

4. Encyclopaedias in Telugu on *Materia Medica*,
5. Popular Home remedies.

The following manuscripts available at Andhra Pradesh Libraries were surveyed :—

1. Ras Sutrabidhanam
2. Ras Pradeepika
3. Bhesaj Kalpam

The microfilming of these above manuscripts was done.

The Institute is maintaining a section for Unani, Homoeopathy and Siddha Systems of Medicine. In the Unani Section, English translation of Alhawai is undertaken. A biography of Unani physicians of 18th volume of Al-Hawai has been collected.

The Photographic section is also functioning in the Institute. Briefly the activities are as here under :—

1. Compilation of selected articles on medical history of India from the Indian Medical Journal for the year 1974.
2. Author index of the Institute library.
3. Assistance on the subject of history of Medicine was provided.
4. Volume 4 No. 1 and 2 were released.
3. Microfilming of thesis entitled chemistry of *Commiphora mukul* Gum resin (*guggulu*).
6. Making the enlargement of books/manuscripts already micro-filmed.
7. Studied the book of Unani Pharmacopoeia called “Muheet-e-Azam” and compiled an article on the author and the book.
8. Compiled an article on *Akitmakit* (Bondue Nut)
9. Compiled and translated the summary of 13th Volume of “Al-Hawai”

10. Corrected the translation of the first discourse of the first part of Al-hawai.
11. Studied 18 volumes of Al-Hawai and collected 115 names of Unani physicians to compile their biographies.
12. Prepared an article "Independent contributions of Arabian physicians to the Unani Medical Science."

6.16 3. The Journal of Research in Indian Medicine is being published quarterly from Institute of Medical Science, Banaras Hindu University, Varanasi as usual. The journal office decided to publish monographs on the articles related to the Survey of Medicinal Plants Unit work of the Council during the current year along with issues.

6.16 4. The literary research unit at T.S.S.M. Library, Thanjavur has completed the following programme :—

1. Collected necessary materials for introduction of Chikitsa *sagara*.
2. Prepared contents of Aswachikitsitam.
3. Filled up proforma for collection information manuscripts (9 manuscripts).
4. Corrected the typed pages of Index of plants etc. in Sarabhendra Vaidya Ratnavali, Sanskrit translation.
5. Suggested Tamil names for diseases in Sanskrit mentioned in the list sent by the Central Council for Research in Indian Medicine and Homoeopathy.
6. Studied the following works and listed about fifty rare manuscripts available in various libraries.
 - a) Theodor aufrecht catalogues Catalogorum.
 - b) New Catalogues Catalogorum. University of Madras (7 vols.).
 - c) A check list of Sanskrit medical manuscripts in Indian.
 - d) Luminaries of Indian Medicine
 - e) Article by Dr. R.R. Pathak in Sachitra Ayurveda of April, 1973.

- f) Article by Dr. P.V. Sharmain Journal of Research in Indian Medicine Vol. 7, No. 3 of 1972.
- g) Catalogue of the Sanskrit manuscripts in the British Museum, London.
7. Verified the Sanskrit translation of *Sarabhendra Vaidya Ratnavali* and noted some points connected with the drugs, weight and measures and some other points to be clarified.
8. Editing of *Rasa Raja Lakshmi* of *Vishnu Pandits (14th Century)*

* *Rasa Raja Lakshmi* has been quoted extensively in *Rasa Kama-dhenu* of Choodamani, *Ayurveda Prakasa* of Upadhyaya, *Shri Madhava* and *Yogaratanakara*. The above three works were studied. 30 *slokas* were found in these works. These 30 *slokas* are not found in other manuscripts. They will be incorporated at appropriate places in the text.

30 *slokas* in first *Patala* and all the 115 *slokas* in second *Patala* are corrected and typed. In foot notes different versions (*Pathabheda*) were given.

Further *Rasayoga Sagara*, in which *Rasa Raja Lakshmi* is quoted, compiled by Shri *Hriprianna Sastri* was also studied. From this work also some extra *slokas* are taken to be added in second *patala* as they are missing in our manuscripts. Foot notes are also given wherever necessary.

6.17.0. Publication and Participation

1.	2.	3.	4.	5.
S.No.	Author (s)	Title of the article	Journal/Seminar	Name of the research Organisation.
1.	Afaq, S.H. Gupta, O.P.	Pharmacognosy of the galls of <i>Quercus infectoria</i> .		CDRS, Pharmacognosy Unit, Jammu.
2.	Aiyar, V.N. Sheshadri, T.R.	Chemistry of Indian Medicinal Plants of the Genes-Croton.	Journal of Research in Indian Medicine.	CDRS, Chemistry Unit. New Delhi.
3.	Aiyar, V.N. Sheshadri, R. Sheshadri, T.R.	Chemistry of <i>Putranjiva roxburghii</i>	-do-	—do—
4.	Ali, U.S.	Contribution to the botanical identity of <i>Priyangu-III</i>	-do-	Regional Research Institute, Trivandrum.
5.	Ali, U.S. Pillai, K.G.B. Nair, C.A.A.	—	Attended the meeting of <i>Sandhigadha Dravyas</i> .	—do—

1.	2.	3.	4.	5.
1.	Bajpai, H.S. Triphathi, S.N. Pandey, P. Agrawal, J.K.	Effect of <i>Albizzia lebeck</i> in treatment of bronchial asthma.	X Scientific Seminar in Indian Medicine, B.H.U., Varanasi.	Applied Drug Research Team, Varanasi.
2.	Banerjee, A. Chakravarthy, M.	Lochvinerine, A new indole alkaloid of <i>Vinca major</i> .	Phytochemistry	CDRS, Chemistry Unit, Calcutta.
3.	Banerjee, A. Banerjee, J. Das, R.	Recent advances in the use of Thallium in organic reactions.	Journal of Science and Industrial Research.	—do—
4.	Banerjee, J. Raj, R.	Isomerisation of 7-Methoxy-8 (3' methyl but -2' enyl) coumarin (osthol) to 7-Methoxy-8 (3' methyl but 3' enyl) coumarin with boron trif-	Chemistry and Industry.	—do—

1.	2.	3.	4.	5.
5.	Banerjee, A. Raj, R.N. Ghosh, P.C.	Isolation of N-Iso-butyl Deca-trans 2-trans-4-dienamide from <i>Piper sylvaticum</i> .	Experientia	CDRS, Chemistry Unit, Calcutta,
6.	Banerjee, J. Dhara, K.P.	Lignam and Amides from <i>Piper sylvaticum</i> .	Phytochemistry	—do—
7.	Banerjee, M.L. Dass, S. Sarcar, G/	Morphological Variations in <i>Hydrola zeylanica</i> and its variety.	Globies	—do—
8.	Basu, D. Sen, R.	Alkaloids and Coumarins from Root bark of <i>Aegle marmelos</i> .	Phytochemistry	—do—
9.	Bhargawa, K.K. Sheshadri, T.R.	Chemistry of Medicinal Plants <i>Eclipta alba</i> and <i>Wedelia calandulacea</i> .	Journal of Research in Indian Medicine.	CDRS, Chemistry Unit, New Delhi.
10.	Bhattacharya, S K.	Tarbardik-a slow position.	—do—	Regional Research Institute, Calcutta.
11.	Bhattarcharya, S.K.	Jalapippali in carcinoma.	—do—	—do—

1.	2.	3.	4.	5.
12.	Bhide, M.B.	Jalappali in carcinoma.	World congress on Asthma, Bronchitis conditions, allied, New Delhi.	CDRS, Pharmacological Unit, Bombay.
13.	Bhide, M.B. et. al.	Pharmacological Evaluation of Vasicinone.	Bulletin of Haffkine Institute.	-do-
14.	Bhide, M.B.. et. al.	Pharmacological studies on the chloroform extract of <i>Tylophora indica</i> .	-do-	-do-
15.	Bhide, M.B. et. al.	Effect of Vasicine and vasicinone on histamine release in passive peritoneal anaphylaxis.	IUPS, Satellite symposium on anaphylaxis and 8th annual conference of college of Allergy and Applied imunology, Bhopal.	-do-

1.	2.	3.	4.	5.
16.	Bhide, M.B. Mahajani, S.S.	Effect of pretreatment with DSCG and vasicinone on sensitivity of guinea pigs to histamine and sympathomatic amines- A Coorelation with antianaphylactic activity.	Bulletin of Haff- kine Institute.	CDRS, Pharmacological Unit, Bombay.
17.	Biswas, M. Ray, A.B. Dasgupta, B.	Chemical investigation of <i>Crataeva nurvala</i> - a search for the anti-inflammatory principle.	-	CDRS, Chemistry Unit, Varanasi.
18.	Brown, R.T. Frash, S.B. Banerjee, J.	Anthocephalus alkaloids- Isodihydrocadambine.	Tetrahydron letters.	CDRS, Chemistry Unit, Calcutta.

1.	2.	3.	4.	5.
1.	Chatterjee, A.	—	62nd Indian Science Congress, New Delhi.	CDRS, Chemistry Unit, Calcutta.
2.	Chatterjee, A. Banerjee, A. Chakravarthy, M.	Monoter period alkaloid from <i>Vinca major</i> Linn.	Planta Medica.	—do—
3.	Chatterjee, A. Dey, A.K. Chakraborty, T.	Triterpenoid rearrangement.	Journal Science and Industrial.	—do—
4.	Chatterjee, A. Mukherjee, A. Kundu, A.B.	A new flavone of the Rhizomes of <i>Acorus calamus</i> .	X Scientific Seminar of ISM, B.H.U. Varanasi.	—do—
5.	Chatterjee, A. Mukherjee, A. Kundu, A.B.	Zanthoxylone, a new triterpenoid Ketone from <i>Zanthoxylum rhetusa</i> .	Phytochemistry.	—do—
6.	Chaturvedi, P.N. Shah, M.R. Shah, M.M.	Shwas rog Savishesh <i>Takama swasa EK Adhyayan</i> .	Sachitra Ayurved.	Regional Research Centre, Jogindernagar.

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3.

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7.	Chaturvedi, P.N. Shah, M.R. Shah, M.M.	<i>Tamaka Swasa</i> <i>Chikitsa</i> Samanvaya.	Sachitra Ayurved.	Regional Research Centre, Jogindernagar.
8.	—do—	<i>Sweda Vaha Srotas</i> Ek Parichaya.	Ayurved Vikas.	—do—
9.	—do—	<i>Brihat Manjistadi</i> <i>Qwathka</i> Adrigdhar Rogpar Prayogatmak Adhyayana.	Sudhanidhi.	—do—

1.	2	3	4	5
1.	Dalal, N.J. Vakil, B.J. Gangrade, R.R. Bhise, K.B. Shah, P.N.	Effect of calcium and histamine on gastric acid secretion in Man.	Journal of Research in Indian Medicine.	Applied Drug Research Unit, Bombay.
2.	Dasgupta, S.R. Patra, B.B.	Studies on the Acetylcholine potentiating action of defatted alcoholic extract of <i>Bhumea locera</i> .	Annual conference of Indian Pharmacological Society, Ahmedabad.	CDRS, Pharmacological Unit, Calcutta.
3.	Dasgupta, S.R. Patra, B.B.	Studies of the Pharmacological action of a Chloroform extracted factor or <i>Acorus calamus</i> on cardiovascular system.	62nd Indian Science Congress, New Delhi.	—do—
4.	Dasgupta, S.R. Patra, B.B.	—	Hypertension and drugs under the auspices of Indian Pharmacological Society.	—do—

1.	2.	3.	4.	5.
5.	Dass, P. C. Paul, B.K. Dasgupta, A.C. Chandhari, S.B. Chatterjee, A.	Studies on cycloalkylamine Derivatives.	Indian Journal of Chemistry.	CDRS, Chemistry Unit, Calcutta.
6.	Dass, P.K.		7th Annual Pharmacological conference, Ahmedabad.	CDRS, Pharmacological Unit, Varanasi.
7.	Dass, P.K. Rathor, R.S. Lal, R. Tripathi, R.M. Ram, A.K. Biswas, M.	Anti-inflammatory and anti-arthritic activity of <i>Crataeva nurvala</i> .	Journal of Research in Indian Medicine.	CDRS, Chemistry/Pharmacological Unit, Varanasi.
8.	Dass, S.R. Banerjee R.N.	A note on <i>Polygala Crotalarieides var glabresceus</i> .	Science and Culture.	Regional Research Institute, Calcutta.
9.	Dixit, R.S.	Clues for identification on controversial drug (Munjataka) from ancient literature.	Journal of Research in Indian Medicine.	Regional Research Centre, Jhansi.
10.	Dixit, R.S.	Pharmacognostical studies on <i>Euphorbia</i>	—do—	—do—

1.	2.	3.	4.	5.
1.	Gaitonde, B.B. Joglekar, S.N.	Role of catecholamines in the Central Mechanism of emetic response induced by peruvoside and ovabain in cats.	British Journal of Pharmacology.	CDRS, Pharmacological Unit, Bombay.
2.	Gaitonde, B.B. Joglekar, S.N. Kulkarni, H.J. Nabar, S.D.	Diuretic activity of <i>Boerhaavia diffusa</i> .	Bulletin of Haffkine Institute.	—do—
3.	—do—	Oestrogenic activity of <i>Peuraria tuberosa</i> .	—do—	—do—
4.	Ghooi, R.B.	Bradykinin potentiating substance from anaphylactic reactions in rats.	7th Annual conference of Indian Pharmacological Society, Ahmedabad.	CDRS, Pharmacological Unit, Bhopal.
5.	Gupta, O.P. Atal, C.K. Afaq, S.H.	Survey of <i>Commiphora mukul</i> an Indian Medicinal Plant.	Economic Botany.	CDRS, Pharmacological Unit, Jammu.
6.	Gupta, O.P. Srivastava, Y.	Profile of blood lipid in the population of Gujarat and its derangement in diabetes	28th Annual conference of Indian Medicine Association Gujarat Branch.	Applied, Drug Research Team, Ahmedabad.

1.	2.	3.	4.	
7.	Gupta, O.P. Gupta, P.S. Srivastava, Y.	<i>Szyygium cumini</i> 'Jambu' as hypoglycemic agent in diabetes mellitus.	7th Annual conference of Indian Pharmacological Society, Ahmedabad.	Applied Drug Research Team, Ahmedabad.
8.	Gupta, O.P. Modi, N.M. Srivastava, Y.	A study of glucose tolerance in patients of cerebrovascular accidents and their blood relatives.	28th Annual conference of Indian Medical Association, Gujarat Branch.	—do—
9.	Gupta, S.C.	—	Regional conference of Indian Pharmacological Society, Jaipur.	CDRS, Pharmacological Unit, Jodhpur.
10.	Gupta, S.C.	Cardiovascular effect of <i>Eclipta alba</i> .	7th Annual conference of Indian Pharmaco- logical Society, Ahmedabad.	—do—
11.	Gupta, S.C. Sharma, V.N.	An experimental study with <i>Surma</i> and <i>Kajal</i> .	Journal of Research in Indian Medicine.	—do—
12.	Gupta, S.S.	Further observations on <i>Tylophora indica</i> .	Aspects of Allergy and Applied Immunology.	CDRS, Pharmacological Unit, Bhopal.
13.	Gupta, S.S.	Adrenergic effect of <i>Tylophora indica</i> .	Allergy and Applied Immunology, Bhopal.	—do—

1.	2.	3.	4.	5.
1.	Hariharan, V.	Studies on <i>Putranjdya</i> .	Journal of Research in Indian Medicine.	Central Research Institute, Cheruthuruthy.
2.	Hariharan, V.	Structure of <i>Putranosides</i> .	Indian Journal of Chemistry.	—do—
3.	Hariharan, V.	Chemical constituents of <i>Entada scandens</i> .	Current Science.	—do—

1.	Joglekar, S.N.	Central mechanism of acute digitalis toxicity.	7th Annual Pharmacological conference, Ahmedabad.	CDRS, Pharmacological Unit, Bombay.
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1.	2.	3.	4.	5.
1.	Kapoor, S.L. Mitra, R. Kapoor, L.D.	Pharmacogro stic studies on the root and rhizome of <i>Parmassia nubicola</i> .	Indian Pharma- ceutical Congress.	CDRS, Pharmacological ULit, Lucknow.
2.	Karnick, C.R.	Studies on the culti- vation of Indian Medi- cinal Drug Plants- <i>Urgenia indica</i> .	Indian Drugs and Pharmaceutical Industry Journal.	JNAMPG & H. Poona.
3.	Karnick, C.R.	Studies on the culti- vation of IMDP <i>Glycy- rrhiza glabra</i> .	—do—	—do—
4.	Karnick, C.R.	STC of IMDP- <i>Abrus precatorius</i> .	—do—	—do—
5.	Karnick, C.R.	Experimental studies on the growth trials of <i>Cassia angustifolia</i> .	62nd Indian Science Congress.	—do—
6.	Karnick, C.R.	ESGT of <i>Tribulus terristris</i> .	—do—	—do—
7.	Karnick, C.R.	Ayurveda the fountain source of Medicinal Science of the World.	Sachitra Ayurveda.	—do—

1.	2.	3.	4.	5.
8.	Karnick C.R.	Crude drug samples of <i>Cinnamomum</i> species of India.	First All India Seminar on Pharmaceutical Research, Ahmedabad.	JNAMPG & H. Poona.
9.	Karnick, C.R.	Trial of <i>Tribulus Terrestris</i> .	26th Session of Indian Pharmaceutical Congress.	—do—
10.	Karnick, C.R.	Experimental studies <i>Urgenia indica</i> .	62nd Indian Science Congress.	—do—
11.	Karnick, C.R.	Experiments on <i>Tribulus Terrestris</i> .	National Symposium on Medicinal and Aromatic Plant, Lucknow.	—do—
12.	Karnick, C.R. Sawant, N.D.	Medicinal properties in some Indian Palms.	Indian Drug and Pharmaceutical Industry Journal.	—do—
13.	Kundu, A.B.	Characterisation of unusual reaction products during the synthesis of N-isobuty 1-Deca-trans 2-trans-4-dilneamide.	62nd Indian Science Congress, New Delhi.	CDRS, Chemistry Unit, Calcutta.
14.	Kurup, P.N.V. Raghunathan, K.	Human Physiology in Ayurveda.	26th International Congress of Physiological Sciences, New Delhi.	Headquarters.
15.	Lal, V.K. Trivedi, V.P. Dixit. R.S.	Pharmacognostical studies of <i>Euphorbia prolifera</i> Buch-Han	Journal of Research in Indian Medicine.	Amalgamated Units, Tarikhet.

(1,	(2)	(3)	4	5
1.	Malhotra, S.C. Ahuja, M.M.S.	Long term clinical studies (hypolipidaemic effect) with <i>Commiphora mukul</i> (<i>Guggulu</i>) and clofibrate.	—	Applied Drug Research Team, New Delhi.
2.	Malhotra, S.C. Ahuja, M.M.S.	(a) Studies on rats of cholesterol turnover in experimentally induced hyperlipidaemic rats. The influence of hypolipidaemic agents. (b) The effect of clofibrate and <i>Commiphora mukul</i> (<i>Guggulu</i>) 4-e-14 Labelled cholesterol turnover in hyperlipidaemic subjects.	Proceedings of V Asia and Oceania Congress of Endocrinology.	—do—
3.	Meharotra, S.	—	62nd Indian Science Congress, New Delhi.	CDRS, Pharmacology Unit, Lucknow.
4.	Mishra, O.P. Joshi, P.	An enumeration of grasses of Kumaon & Garwal division & Dehradun Distt. of U.P. Part-I.	Indian Forester.	Amalgamated Units, Tarikhet.

1.	2.	3.	4.	5.
5.	Mitra, R. Kapoor, L.D.	Pharmacognostical study of <i>Palankya-I Beta vulgaris</i> .	Journal of Research in Indian Medicine.	CDRS, Pharma- cological Unit, Lucknow.
6.	Mitra, R. Meharotra, S. Kapoor, L.D.	Pharmacognostic study of the fruit and seed of <i>Chiroumji buchanania Tauzan</i> .	Indian Pharmaceuti- cal Congress.	—do—
7.	Mukherjee, G.D.	Dissemination of information on the mentally retarded people to the public medical and para medical personnel.	Journal of Research in Indian Medicine.	Regional Research Institute, Calcutta.
8.	Mukherjee, G.D.	Principle of treatment of dermatological diseases in Ayurvedic system of medicine.	—do—	—do—
1.	Nair, C.P.R.	—	Attended the 2nd Annual Conference of Indian Association of Dermatologists, Venerologists and Leprologists at Trivandrum.	Regional Research Institute, Trivandrum.

1.	2.	3.	4.	5.
1.	Pandey, G. Singh, V.K.	New records of Medical Efficacy claims of certain plants recorded from Gwalior Forest Circle, M.P. II.	Journal of Research in Indian Medicine.	Survey of Medicinal Plants Unit, Gwalior.
2.	Pandey, G. Singh, V.K. Bhatnagar, L.S.	A note on Identity of <i>Mokshaka</i> a contraversial Ayurvedic Drug.	Dhanwantari.	—do—
3.	Pandey, H.C. Tiwari, R.N. Joshi, P.	<i>Diploneris hirsula</i> Lindl. A new record from western Himalayas.	Indian Forester.	Amalgamated Units, Tarikhet.
4.	Pandey, V.B. Dasgupta, B. Ghosal, S.	The alkaloids of <i>Fumaria indica</i> .	Journal of Industry and Chemistry.	CDRS, Chemistry Unit, Varanasi.
5.	Pandey, V.B. Ray, A.B. Dasgupta, B.	Seed alkalioids of <i>Fumaria indica</i> .	Current Sceince.	—do—
6.	Pandey, V.B. Ray, A.B. Dasgupta, B.	Quarternary alkolooid of <i>Fumaria indica</i> .	62nd Indian Science Congress, New Delhi.	—do—

1.	2.	3.	4.	5.
7.	Pandey, V.B. Ray, A.B. Dasgupta, B.	1-tetra hydrocoptesine its isolation, characterisation and pharmacological evaluation.	10th Scientific Conference on Indian Medicine, Varanasi.	CDRS, Chemistry Unit, Varanasi.
8.	Pataskar, R.D. Surange, S.R. Pendse, G.S.	Medico botanical studies from Sahyadri ranges of Nasik District.	Journal of Research in Indian Medicine.	CDRS, Pharmacological Unit, Poona.
9.	Purushothaman, K.K. Chandrashekar, S.	Extractives of <i>Mamsarohini</i> .	Journal of Research in Indian Medicine.	Captain Srinivasa Murthy Research Institute, Madras.
10.	Purushothaman, K.K. Chandrasekhar, S.	Ceeurance of Methylangolensate deoxyondirobin in <i>Soyamida febrifuge</i> .	Journal of Research Chemistry.	—do—
11.	Purushothaman, K.K. Chandrasekhar, S. Connolly, J.D.	Structure of Gange-tin and Desmodin, two minor pterocaranoids of <i>Desmondium gangeticum</i> .	Phytochemistry.	—do—

1.	2.	3.	4.	5.
12.	Purushothaman, K.K. Sarada, A	Chemical Examination of <i>Kirata Tikta</i> .	Journal of Research in Indian Medicine.	Captain Srinivasa Murthy Research Institute, Madras.
13.	Purushothaman, K.K. Sarada, A. Madhuram, S.	Flavanoids of <i>Dikkanali</i> gum.	—do—	—do—
14.	Purushothaman, K.K. Sarada, V. Conally, J.D,	Nepetalfolinol and two related diterpinoids from <i>Leonotis nepetafolia</i> .	Journal of Chemical Sciences.	—do—

1.	2.	3.	4.	5.
1.	Raj, P.V.	A study of <i>Tephrosia purpurea</i> as local Anaesthetic.	9th Biennial function of Academy of Ayurveda, Vijayawada.	Regional Research Centre, Vijayawada.
2.	Raj, P.V.	Moorva and its controversies.	Golden Jubilee celebration of Andhra Ay. Parishad, Vijayawada.	—do—
3.	Raj, P.V.	—do—	All India Ayurvedic Congress, Pondicherry.	—do—
4.	Raghunathan, K.	—	National Population Congress, New Delhi.	Headquarters.
5.	Ramachandran, M. Chandramouli, K. Padmanabhan, V. Samasundaram, M.B.	The relation of iodine content of drinking water to nodular goitres of Thyroid in Kerala.	Satellite Symposium Medical College, Trivandrum.	Regional Research Institute, Trivandrum.
6.	Raju, M.S. Sremannarayana, G. Rao, N.V.S.	Structure of Mesuanic Acid.	Indian Journal of Chemistry.	CDRS, Chemistry Unit, Hyderabad.
7.	Rathinam, K.	Preliminary Pharmacological Screening of Nimbadin.	7th Annual Conference of Indian Pharmacological Society, Ahmedabad.	CDRS, Pharmacological Unit, Trivandrum.

1.	2.	3.	4.	5.
8.	Rao, B.R. Varadarajan, T.V.	—	48th All India Ayurvedic Congress, Pondicherry.	Captain Srinivasa Murti Research Institute, Madras.
9.	Rao, D.V.P.	—	All India Seminar on Yoga, Science & Man.	Mobile Clinical Research Unit, Jamnagar.
10.	Rao, N.H.	Problems facing the Standardisation of <i>Bhasmas</i> of single dhatus as well as compound preparation.	Padmashri Dr. V. Nara- yanaswami, Abhinanda- nagrantha.	Drug Standardisation Research Enquiry. Vijayawada.
11.	Rao, T.S. Venkatraman, S.P.	—	48th Session of All India Ayurvedic Sammelan, Pondicherry,	Dr. A. Lakshmi pathi Unit for Research in Indian Medicine Madras.
12.	Reddy, G.C.S. Ayengar, K.N.N. Rangaswamy, S.	Chemical components of <i>Salacia fruticosa</i> .	Indian Journal of Chemistry.	CDRS, Chemistry Unit. New Delhi.
13.	Reddy, G.C.S. Ayengar, K.N.N. Rangaswamy, S.	3-epi-siarsinolic acid a new trefepehe from <i>Gardenia latifolia</i> .	—do—	—do—
14.	Reddy, G.C.S. Ayengar, K.N.N. Rangaswamy, S.	Triterpenoids of <i>Gardenia latifolia</i> .	Phyto-chemistry.	—do—

1.	2.	3.	4.	5.
1.	Shah, M.M.	<i>Shirashool Parapra-dhanamanasya mamana-sya.</i>	—	Regional Research Centre, Jogindernagar.
2.	Shah, M.M.	<i>Garbhasyaya Bhramaha.</i>	Ayurveda Vikas.	—do—
3.	Shah, M.M.	<i>Dluemrapan.</i>	Sudhanidhi.	—do—
4.	Shah, M.M.	<i>Bolakonka Apeshana Samosyaka Nirokaroma.</i>	Sudhanidhi.	—do—
5.	Shah, M.M.	<i>Artavavimargagaman.</i>	Sachitra Ayurveda.	—do—
6.	Shah, M.R.	<i>Stree Evan Bala Shira Shoola ka Samanvaya.</i>	Sudhanidhi.	—do—
7.	Shah, M.R.	<i>Shirashoolanatakatalia nasya.</i>	—do—	—do—
8.	Shah, M.R.	<i>Ayurvedame Sweda Mahatva our Usta.</i>	Dhanwantari.	—do—
9.	Shah, M.R.	<i>Dustine, Swedana, Chikitsa Shishurga Vesheshajua.</i>	Sudhanidhi.	—do—
10.	Shah, N.C.	Pharmaco-botanical studies on <i>Myrsine africana</i> a substitute for <i>Vidanga.</i>	Indian Journal of Pharmacy.	CDRS, Pharmacy Unit, Lucknow.

1.	2.	3.	4.	5.
11.	Shah, N.C.	Prospects of botanical drugs from hill Distt. of U. P.	National Symposium of Arauotic Plants.	CDRS, Pharmacy Unit, Lucknow.
12.	Shah, M.R.	<i>Kumara bharan do prant Vidhiyan ka adhyayan</i>	Dhanwantari.	Regional Research Centre, Jhansi.
13.	Shah, N.C.	Report of Expedition to Nanda Devi, Sanctury.	Headquarters.	CDRS, Pharmacognosy Unit, Lucknow.
14.	Shah, N.C. Kapoor, L.D.	Culture and propagation of <i>Tylophora indica</i> .	Indian forest.	—do—
15.	Shah, N.C. Mitra, R. Kapoor, L.D.	Pharmaco-botanical and ethno-botanical studies of <i>Cympopogan Jharancusha</i> .	Indian Pharma- ceutical Congress.	—do—
16.	Shankar, A. Sanagvisha Gupta, M.C.	A Clinical trial with <i>Haridra (Curcuma longa)</i> in cases of Brochitis, branchiestasis, bronchial asthma and tropical eosinophilia.	World Congress Asthma, Bronchitis. and allied conditions New Delhi.	Allied Drug Research Team, Gwalior.
17.	Shantakumari, G.	Antifertility effects of Plumbagin.	7th Annual Conference of Indian Pharmacological Society, Ahmedabad.	CDRS, Pharmacological Unit, Trivandrum.

1.	2.	3.	4.	5.
18.	Sharma, B.V.	<i>Shatawari</i> in the treatment of <i>Amlapitta</i> .	Post-graduate Seminar on <i>Amlapitta</i> Tilak Ayurveda College, Poona.	Applied Drug Research Team, Poona.
19.	Sharma, P.V. Dutta, S.K. Sharma, B.N.	Analytical study of sugar Metabolism in <i>Asava</i> and <i>Arista</i> .	10th Scientific Seminar of Indian Medicine, Banaras Hindu University, Varanasi.	Preliminary Standardisation Research Unit, Jamnagar.
20.	Sharma, V.N.	—	26th International conference of Pharmacological sciences, New Delhi.	CDRS, Pharmacological Unit, Jodhpur.
21.	Sharma, V.N.	Role of <i>Luffa echinata</i> in experimentally induced livers damage in rats.	Regional Conference of Indian Pharmacological Society, Jaipur.	—do—
22.	Sharma, V.N.	Gastric antiseartery or anti-ulcer on acylaminophenothiazine.	7th Annual conference of Indian Pharmacological society, Ahmedabad.	—do—
23.	Sharma, V.N. Gupta, S.C.	Some Pharmacological observation in	Journal of Research in Indian Medicine.	—do—

1.	2.	3.	4.	5.
24.	Singh, J. Aggarwal, R.G. Lal, V.K. Joshi, P.	Pharmacognostical leaves of <i>Euphorbia prolifera</i> Linn and Preliminary investi- gations of the later.	Journal of Research in Indian Medicine.	Amalgamated Unit, Tarikhet.
25.	Singh, N. Kapoor, R.N. Anniraju, C.K. Kohli, R.P.	Experimental studies on anti-hypertensive activity of <i>Moringa pteligosperma</i> .	—do—	CDRS, Pharmacological Unit, Lucknow.
26.	Singh, N. Nath, R. Tripathi, A. Sharma, V.K. Kohli, R.P.	Pharmacology of <i>Inula racemosa</i> .	—do—	CDRS, Pharmacological Unit, Lucknow.
27.	Singh, V.K. Pandey, G.	<i>Typhonium trilobatum</i> (L) Seholi-A New record to the flora of Madhya Pradesh.	—do—	Survey of Medicinal Plants Unit, Gwalior.
28.	Singh, V. K. Pandey, G. Bhatnagar, L.S.	<i>Desmodium neomaxico- num-A-Gray-A</i> new record to the flora of Madhya Pradesh.	—do—	—do—

1.	2.	3.	4.	5.
29.	Srivastava, T.N.	<i>Togetis minuta</i> Linn. A new record for J. & K. for Udhampur.	Journal of Research in Indian Medicine.	Survey of Medicinal Plants Unit, Jammu.
30.	Srivastava, T.N. Sankh gadhar, S.C.	Cultivation of <i>Crocus</i> <i>sativus</i> in Jammu.	—do—	—do—
31.	Surange, S.R. Potaskar, R.D. Pendse, G.S.	Pharmacognostic studies of leaf of <i>Cynadon</i> <i>dactylon</i> .	—do—	CDRS, Pharmacological Unit, Poona.
32.	—do—	Pharmacognostic studies of the bark of <i>Juglens</i> <i>regia</i> .	—do—	—do—

1.	2.	3.	4.	5.
1.	Tinani, K.C. Joshi, P.	A record of some insect-pests attacking Medicinal Plants at Ranikhet.	Indian Journal of Pharmacy.	Amalgamated Unit, Tarikhet.
2.	Tiwari, N.C. Ayengar, K.N.N. Rangaswami, S.	Triterpenes of the root barks of <i>Salacia premoides</i> .	Journal of Chem. Society Perkin Transaction.	CDRS, Chemistry Unit, New Delhi.
3.	Togeenashi, V.S. Venkataraman, B.S. Yoganaraseinhan, S.N.	Code of nomenclature and a drug index for Ayurvedic drugs.	Sachitra Ayurveda.	Regional Research Centre, Bangalore.
4.	Tripathi, R.M.	Effect of <i>Albizzia lebeck</i> on Smooth muscle.	Xth Scientific Seminar on Indian Medicine at IMS Banaras Hindu University, Varanasi.	CDRS, Pharmacological.
5.	Tripathi, R.M. Dass, P.K.	Effect of <i>Albizzia lebeck</i> on professed blood vessels.	JRIM 17th Annual Pharmacological conference, Ahmedabad.	—do—
6.	Tripathi, V.J. Ray, A.B. Dasgupta, B.	Chemistry and Pharmacology of the major alkaloids and its degradation product isolated from Indian lotus- <i>Nelumbo Nucifera</i> .	10th Scientific conference of Indian Medicine, Varanasi.	CDRS, Chemistry Unit, Varanasi.

1.	2.	3.	4.	5.
7.	Trivedi, V.P. Dixit, R.S. Lal, V.K. Joshi, P.	Clues for identification of controversial drugs (Munjataka) from Ancient Literature.	Journal of Research in Indian Medicine.	Amalgamated Unit, Tarikhet.
1.	Uniyal, M.R.	Cultivation of Medicinal Plants in India.	Sachitra Ayurved.	RRC Jhansi,
2.	Uniyal, M.R.	Vaidik <i>Sam Evan</i> <i>Ayurvedic Sanaki</i> <i>Sameekshatmak</i> <i>Adhyayan.</i>	—do—	—do—
3.	Uniyal, M.R.	<i>Tibbet Me Bharatiya</i> <i>Aushadha Prasara.</i>	—do—	—do—
4.	Uniyal, M.R.	<i>Shishorogamritua</i> <i>Ativisha.</i>	Sudhanidhi.	—do—
5.	Uniyal, M.R.	On the study of the group mamsitraya in Ayurveda.	Journal of Research in Indian Medicine.	—do—

1.	2.	3.	4.	5.
1.	Vakil, B.J.	Dose response curve of pentagastrin and its interaction with histamene.	V World Congress of Gastroentrolgy, Maxico.	Applied drug Research Team, Bombay.
2.	Vakil, B.J. Dalal, N.J. Lele, M.Y. Sathe, B.V. Dixit, B.R.	Evaluation of <i>Adhatoda vaseka</i> in the treatment of infective hepatitis.	Journal of Research in Indian Medicine.	—do—
1.	Yoganarasimhan, S.N. Subramanyan, K.	On the occurance of <i>Bhanea heiracifolia</i> var <i>flenuora</i> in South India.	Current Science.	RRC, Bangalore.
2.	Yoganarasimhan, S.N. Bhat, A.V. Togunashi, V.S.	Preliminary observations on Plants from Mysore Distt.	Journal of Research in Indian Medicine.	—do—
3.	Yoganarasimhan, S.N. Venkataraman, B.S. Togunashi, V.S.	Standardspecimen its need and advantages for Ayurvedic drugs.	—do—	—do—

1.	2.	3.	4.	5.
1.	—	A Clinical trial with <i>Astawarga Qwath</i> and <i>Dhanvantara Yoga</i> in <i>Paksha vata</i> .	Journal of Research in Indian Medicine.	Central Research Institute, Cheruthuruthy.
2	—	An interesting case of <i>Brama</i> (Vertigo) with inability to sit or walk treated by Ayurvedic methods.	—do—	—do—
3.	—	<i>Hridayanthara Vikas</i> (heart dilatation noted) in few cases presented with <i>Vatarakta</i> symptoms.	—do—	—do—
4.	—	Clinical and phytochemical investigation of <i>lohasava</i> .	—do—	—do—
5.	—	Pharmacognostic studies on <i>Shireesh-III Albizzia procera</i> -Benth-Stem bark.	—do—	CDRS, Pharmacogonosy Unit, Lucknow.

1.	2.	3.	4.	5.
6.	—	Pharmacognostic studies on <i>Sharapunkha Tephrosia purpurea</i> .	Journal of Research in Innian Medicine.	CDRS, Pharmacogonosy Unit, Lucknow.
7.	—	New Records to the Medical Efficacy claims of certain plants recorded from Gwalior Forest Circle, Madhya Pradesh I-A, Preliminary contribution.	—do—	Survey of Medicinal Plants Unit, Gwalior.
8.	Hemadri, K.	<i>Manisuris ratnagirika</i> Kulkarni et Hemadri- A new grass from Səhyadri range, Maharashtra State.	Indian Forestor.	Regional Research Centre, Vijayawada.
9.	Hemadr, K.	Seshagiria Ansari et. Hemadri (Arclepiadaece) from Maharashtra State. India, Additional data.	Bulletin of B.S.I.	—do—
10.	—	Effect of Mandoo kaparni (<i>Centella asiatica</i>) on General mental ability of mentally retarded children.	Bi-annual function of the Academy of Ayurveda- awarded Vaidya Ratna Capt. G.S.M. Memorial Scientist Silver Medal.	Dr. A. Lakhshmpati Unit for Research in Indian Medicine, Madras.

1.	2.	3.	4.	5.
11.	—	Effect of <i>Centella asiatica</i> on the general mental ability of mentally retarded children. [6 months results]	Bi-annual function of the Academy of Ayurveda-awarded Vaidya Ratna Capt. G.S.M. Memorial Scientist Silver Medal.	Dr. A. Lakhshmpati Unit for Research in Indian Medicine, Madras,
12.	—	Effect of Punarnava on longevity, growth and nitrogen retention of Albino rats.	—	—do—
13.	—	Study of Prakriti (Constitution and temperament) as an aid to predict proneness of Madhumeha (Diabetes)	—	—do—
14.	—	Comparison of different ecological types of <i>Marsika minuta</i> in relation to Pharmacognosy and Physiology.	All India Seminar on Pharmaceutical Res. Gujarat.	CDRS, Pharmacognosy Unit, Calcutta.

6.18.0 Project/Programme

S. No.	Name of the Research Organisation	Programme
6.1.0	Central Research Institute	i) Applied Research on <i>Vata, Amavata</i> and <i>Vata rakta</i> group of diseases.
6.1.1	Cheruthuruthy, Kerala.	ii) Short term programmes on <i>Pratishyaya, Udara Krmi, Pana, Madhumeha</i> and <i>Vicharchika</i> . iii) Routine biochemical/ pathological investigation, in addition to isolation of active principles of potent single drug studied in the Institute. vi) Working out the Pharmacological profile of <i>Tagara</i> , AYUSH-46 and planned studies for evaluation/continuing of alleged potentialities in case of drugs referred. v) Civet cat breeding programme. vi) Compilation and edition of traditional classic <i>Sahasrayoga</i> . vii) Collection of Health Statistics and folk-lore claims. viii) Assessing the effectiveness of <i>Gokshuradimodaka</i> in <i>Shweta pradara</i> and <i>lohasava</i> in <i>Pandu</i> .

6.1.2 Patiala-
Punjab.

- i) Applied Research on *Tamaka Swasa, Shweta pradara, Amavata, Pakshaghata, Shvitra, Madhumeha Paurusha, granthi-shotha, Krmiroga, Twak roga, Medoroga.*
- ii) Routine Biochemical/Pathological investigations.
- iii) Working out of the Pharmacological profile of various preparations that are being studied in the Institute and evaluation of the alleged potentialities.
- iv) Collection of Health Statistics and folk-lore claims.
- v) Assessment of the efficacy of *Chyavana Prash* in School going children.
- vi) Clinical screening of oral contraceptive *Talisadi yoga.*

6.2.0 Regional
Research Institute.

6.2.1 Bhubaneshwar,
Orissa.

- i) Studies on the selected recipe and line of treatment on *Amlapitta, Parinamashula, Pakshaghata; Pangu, Amavata, Krmir roga, Twakroga and Sleepada.*
- ii) Effect of *Ashwagandha* on School going children.
- iii) Effect of *Nityandarasa in sleepada.*
- iv) Collection of Health Statistics.

- v) Medico-botanical survey cultivation-drug supply.
- vi) Collection of folk-lore claims.

6.2.2 Calcutta,
West Bengal.

- i) Study of the selected recipe and the line of treatment in *Vatavyadhi group Swasa grahini, Twakroga, Shwitra, Apasmara* and *Medoroga*.
- ii) Survey of health statistics.
- iii) Study of the effect of *Shwasagni* in *Tamakashwasa* and *Vidarga churna* in *Krimi*.
- iv) Clinical screening of oral contraceptives.
- v) Medico-botanical survey, cultivation, drug supply.
- vi) Collectiton of folk-lore claims.

6.2.3 Jaipur,
Rajasthan.

- i) Studles on the selected recipe and line of treatment *Grahini, Roga, Grahinidosha, Amavata, Vataroga* and *Swasa*.
- ii) Extensive cultivation of *Guggulu*.
- iii) Medico-botanical survey, cultivation, drug supply.
- iv) Collection of health statistics.
- v) Clinical screening of oral contraceptives.
- vi) Collection of folk-lore claims.

6.2.4 Trivandrum,
Kerala.

- i) Pharmacognostic study of *Ela*, *Priyangu*, *Saptarangi*, *Parush* *Nagakeshara* and *Pippali*.
- ii) Chemical studies of *Cassia fistula*, *Calycopteris floribunda* *Melia azadirachta*, *Plumbago rosea*, *Embelia ribes* and *Aster-cantha longifolia*.
- iii) Standardisation of the method of manufacture of *Asavarishta*.
- iv) Standardisation of the raw drugs that are entering in the composition of *Abhayarishta*, *Draksharishta* and *Dashamoola, rishta*.
- v) Supply of plant extracts.
- vi) To find out the areas of utility of *Nimbidine*, *Calycopterine* and *Lajjalu*.
- vii) Medico-botanical survey-cultivation, drug supply.
- viii) Clinical screening of oral contraceptive-*Vidangadi yoga*.
- ix) Collection of folk-lore claims.

6.3.0 Jawaharlal Nehru Ayur-
vedic Medicinal Plants Garden and Herbarium, Poona,
Maharashtra.

- i) Experimental cultivation of the medicinal plants used in Indian systems of Medicine and Homoeopathy.
- ii) Maintenance and cultivation studies on plants under experimental cultivation.
- iii) Preparation of reference herbarium and Museum.
- iv) Study of the market samples.
- v) Cytological study of the plants.

6.4.0 **Captain Srinivasa Murthy**
Research Institute, Madras,
Tamil Nadu.

- i) Standardisation of Raw Drugs.
- ii) Detailed Chemical Studies on *Desmodium Mangeticum*, *Chukrasia tabularis*, *Citheroxylum subserratum*, *Eupatorium aya-pana*, *Leonatis nepetaefolia*, *Cressa critica*, *Randia dumetorum*, *Anisomeles malabarica* and *Abutilon indicum*.
- iii) Identification of fungi from *Dhataki pushpa*.
- iv) Isolation of anti-tubercular compound from *Rudanti*.
- v) Pharmacognostic studies of *Nimba*, *Amalaki*, *Mashaparni*, *Agnimāntha*, *Draksha* and *Brihati*.
- vi) Study of the identification of micro-organisms responsible for fermentation in *Kumaryasava*.
- vii) Evolving working standards for various types of preparation mentioned in the classical Ayurvedic works.

6.5.0 **Amalgamated Units Tarikhet,**
Uttar Pradesh.

- i) Medico-botanical Survey-collection-drug supply-cultivation.
- ii) Collection of folk-lore claims.
- iii) Collection of Shilajitu.
- iv) Saffron cultivation.
- v) Muskdeer breeding
- vi) Maintenance of herbaria, Museum,
- vii) Standardisation project of single drugs, finished products and method of manufacture.

6.6.0 Dr. A. Laksmipati
Unit for Research
in Indian-Medicine,
Madras, Tamil Nadu.

Evaluation of (i) *Rasayana* property of *Ashwagandha*, (ii) *Medhya* action of *Mandookaparni* (iii) *Guggulu* in lipid disorders, (iv) Mechanism of action of *Punarnava* in nitrogen metabolism (v) Prakriti studies in *Madhumeha*, *Parinamashula*, *Tamaka shwasa*.

6.7.0 Regional Research Centre.

6.7.1 Bangalore,
Karnataka.

- i) Medico—botanical survey drug collection-supply.
- ii) Collection of folk-lore claims.
- iii) Standardisation of single drugs and the finished products.
- vi) Collection of Health Statistics.
- v) Assessing of efficacy of *Shata-varichurna* and *Shatavari* Mandoor in *Pandu*.

6.7.2 Jhansi,
Uttar Pradesh.

- i) Medico-botanical survey drug collection-cultivation-supply.
- ii) Collection of folk-lore claims.
- iii) Experimental cultivation of medicinal plants.
- vi) Maintenance of Herbaria and Museum.
- v) Drug Depot.

6.7.3 Jogindernagar,
Himachal Pradesh.

- i) Medico-botanical survey drug collection-cultivation supply.
- ii) Collection of folk-lore claims.
- iii) Collection of health statistics.
- iv) Assessing the efficacy of *Musta* in *Atisara* with special reference to infantile diarrhoea.

- 6.7.4 Nagpur,
Maharashtra.
- i) Medico-botanical survey drug collection—supply.
ii) Collection of folk-lore claims.
iii) Collection of health statistics.
- 6.7.5 Vijayawada,
Andhra Pradesh.
- i) Medico-botanical survey drug collection—supply.
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iii) Collection of health statistics.
iv) Finding out a cheap and effective remedy for *Shleepada*.
- 6.8.0 Survey of
Medicinal Plants
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- 6.8.1 Gauhati, Assam
- i) Medico-botanical survey-cultivation—drug supply.
ii) Collection of folk-lore claims.
- 6.8.2 Gwalior,
Madhya Pradesh. —do—
- 6.8.3 Jammu, J. & K. —do—
- 6.8.4 Patna, Bihar. —do—
- 6.8.5 Rajpipla, Gujarat. —do—
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Tamil Nadu. —do—
- 6.9.0 Standardisation
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- 6.9.1 Jamnagar, Gujarat.
- i) Working out preliminary standards for various preparations mentioned in the classical ayurvedic works.

- 6.9.2 Junagadh, Gujarat. Evolving standards for single drugs, method of manufacture and finished products.
- 6.9.3 Varanasi, Uttar Pradesh. Laying of working standards for various preparations mentioned in the classical ayurvedic works.
- 6.9.4 Vijayawada, Andhra Pradesh. Evolving the indigenous method for identifying the *bhasmas/sindooras*.
- 6.10.0 Pharmacognostic Research Projects.
- 6.10.1 Ahmedabad, Gujarat. i) *Cyperus rotandus*.
ii) *Desmostachya bipinnata*.
- 6.10.2 Calcutta, West Bengal. i) *Eclipta alba*.
ii) *Holarrhena antidysenterica*.
iii) *Vernonia anthelmentica*.
iv) *Alstonia scholaris*.
- 6.10.3 Chandigarh. i) *Bupleurum falcatum*.
- 6.10.4 Jammu, J. & K. i) *Commiphoramukul*.
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iii) *Glycyrrhiza glabra*.
i) *Albizzia odoratissima*.
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iii) *A. Procera*.
iv) *Spinacia obracea*.
v) *Ficus tsiela*.
vi) *Tylophora indica*.
vii) *Embelia ribes*.
viii) Medico-botanical survey collection—drugs supply.
ix) Collection of folk-lore claims.

6.10.6 Poona,
Maharashtra.

- i) *Zaleya pentandra.*
- ii) *Calotropis gigantea.*
- iii) *Solanum nigrum.*
- iv) *Scripus kysoor.*

6.11.0 Chemical Research
Projects.

6.11.1 Calcutta,
West Bengal.

- i) *Oroxylum indicum.*
- ii) *Zanthoxylum alatum.*
- iii) *Callicarpa macrophella.*
- iv) *Acorus calamus.*
- v) *Piper sylvaticum.*
- vi) *Stephania glabra.*
- vii) *Supply of plant extracts.*

6.11.2 Delhi.

- i) *Abrus precatorius.*
- ii) *Xanthoxylum acanthopodium.*
- iii) *Glycyrrhiza glabra.*
- iv) *Feronia limonia.*
- v) *Lawsonia innurmis.*
- vi) *Caesalpinea crista.*
- vii) *Salacia marcrosperma.*
- viii) *Coccinia indica.*
- xi) *Gardenia gummiphera.*
- x) *G. latifolia.*
- xi) *Salacia fruticosa.*
- xii) *Achyranthes aspera.*
- xiii) *Commiphora mukul.*
- xiv) *Supply of plant extracts.*

- 6.11.3 Hyderabad,
Andhra Pradesh.
- i) *Adhatoda vasica*.
 - ii) *Holarrhena antidysenterica*.
 - iii) *Mesua ferrea*.
 - iv) *Nyctanthes arborstritis*.
 - v) *Cassia siamea*.
 - vi) *Tylophora asthmatica*.
 - vii) Supply of plant extracts.
- 6.11.4 Lucknow,
Uttar Pradesh.
- Isolation and supply of Glycyrrhetic acid, Jatamom-sone, Semicarbazone and extracts of *Commiphora mukul*.
- 6.11.5 Varanasi,
Uttar Pradesh.
- i) *Fumaria indica*.
 - ii) *Nelumbo nucifera*.
 - iii) *Crataeva nurvala*.
 - iv) *Cissampelos pareira*.
 - v) *Cassia fora*.
 - vi) *Albizzia lebbeck*.
 - vii) *Gyclea pillata*.
 - viii) Supply of plant extracts.
- 6.12.0 Pharamacological
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- 6.12.1 Bhopal,
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 - ii) *Desmodium gangeticum*.
 - iii) *Achyranthes aspera*.
- 6.12.2 Bombay,
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 - ii) *Tylophora indica*.

- iii) *Mesua ferrea* 0.31.0
- iv) *Asparagus racemosus*.
- v) *Boerhaavia diffusa*. 1.31.0
- vi) *Pueraria tuberosa*.
- vii) *Oxalis corniculata*.
- viii) AYUSH-51.

6.12.3 Calcutta,
West Bengal.

- i) *Acorus calamus*.
- ii) *Blumea lacera*.
- iii) AYUSH-49.

6.12.4 Jodhpur,
Rajasthan.

- i) *Abrus precatorius*.
- ii) *Borgonia lingulata*.

6.12.5 Lucknow,
Uttar Pradesh.

- i) *Inula racemosa*.
- ii) *Moringa pterygosperma*.
- iii) *Cyperus rotundus*.
- iv) *Leucas caphalotes*.
- v) *Nymphaea stellata*.
- vi) *Withania somnifera*.
- vii) *Zanthoxylum alatum*.

6.12.6 Meerut,
Uttar Pradesh.

Study of coded drugs.

6.12.7 Trivandrum,
Kerala.

- i) Nimbidine for *Melia azadirachta*.
- ii) *Hemidesmus indicus*.
- iii) *Plumbagin* from *Plumbago*
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- iv) *Bacopa monnieri*.

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- ii) *Kutkin* from *Picrorhiza kurroa*.

- 6.13.0 Applied Drug Research Teams. Assessment of the :-
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- 6.13.2 Bombay, Maharashtra. Assessment of the efficacy of :-
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- 6.13.5 New Delhi. Assessment of the efficacy of :-
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- 6.15.7 Clinical Research Unit, New Delhi. Study of *amlapitta*, *annadravamsula* and *parinamasula*.
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6.16.3	Journal of Research in Indian Medicine, Varanasi.	Publication of quarterly Journal.
6.16.4	Literary Research Unit, Tanjavur.	Collection, compilation editing and translation of rare books/manuscripts in Ayurveda.

7.0 Yoga

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- 7.1.1 New Delhi**
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- 7.1.3 Jaipur**
- 7.1.4 Gauhati**
- 7.2.0 Projects and Programmes**

7.1.0 Clinical Research

7.1.1 The Project on Bronchial asthma and chronic colities was taken on hand at Yogic treatment-cum-Research Centre, Jaipur. Before admission, the patients are examined for any complications or disease process like myocardial infarction, coronary artery disease, hypertension, infections disease like tuberculosis, that makes the patient not suitable for Yoga therapy. After preliminary assessment the patients are provided Yoga therapy and yogic dietetics.

In bronchial asthma, improvement was seen in 51.87% of cases, while in chronic colitis improvement was to the extent of 52%.

The results of the treatment of the indoor patients for the period from 1-4-1974 to 31-3-1975 is as follows :—

Name of the Disease.	Total No. of cases.	No. of cases left against medical advice.	No. of cases improved.	No. of cases not improved.	Percentage of cases improved.
1. Bronchial Asthma	27	9	14	4	51.87%
2. Chronic colitis	25	7	13	5	52%

7.1.2 This unit took to study of effect of yoga against refractive errors and diseases of ears, nose and throat problems at Delhi Yoga Sabha. S/VI R. K. Puram, New Delhi.

320 patients of the diseases mentioned above were given yogic treatment between 1st November, 1971 and 31st March, 1975 during the 13 yogic-cure-cum research camps; out of which 185 patients of all the said ailments improved, other 107 patients got fully cured, 13 patients left against yogic advice. Only 15 patients were there who did not improve at all during the all yoga camps. It is observed that while undergoing the yogic treatment for 45 minutes a day, there is a need for following of

certain principles with regard to the proper and correct way of reading with least eye strain and balanced diet. It can be only possible if the patients are kept at a place with all the requisite facilities for a period of at least 3 months.

7.1.3 The research project on study of effect of yogic therapy in the treatment of diabetes, asthma, rheumatoid arthritis, gastrointestinal disorders and sinusitis was taken over by Vishwayatan Yogashram, New Delhi.

107 cases were admitted during the period under review. Some of them left due to personal or domestic reasons without completing the course. The result of treatment of different diseases are given below:—

Sl. No.	Name of the disease.	Total No. of cases.	No. of cases left against medical advice.	No. of cases completed full course.	No. of cases improved.	% of cases showing improvement.
1.	Diabetes	4	—	4	3	75%
2.	Asthma	38	5	33	29	87.9%
3.	Gastro—intestinal disorder	47	14	33	31	93%
4.	Arthritis	18	2	16	14	87%
Total		107	21	86	77	89.6%

Yogic kriyas prescribed for various diseases were as in the previous year.

No. of cases admitted from Feb. 1971 to March, 1975

Sl. No.	Name of the diseases.	Total No. of cases.	No. of cases left against medical advice.	No. of cases completed full course.	No. of cases improved.	% of cases showing improvement.
1.	Diabetes	132	21	111	72	64.8%
2.	Asthma	145	20	125	103	82.2%
3.	Gastro-intestinal disorder	55	2	53	42	74.2%
4.	Arthritis	185	37	148	136	91.8%
5.	Sinusitis	5	1	4	2	50%
Grand Total		552	81	441	355	80%

7.1.4 Clinical Research Unit (Yoga) Shivanand Math, Kamakhya Gauhati, (Assam).

Special Sattawik diet is given to the patients in the Unit. Sattawik diet is that diet from which body does not accumulate anything poisonous matter in the system. Sattawik food is essentially alkaline by nature. It suits the blood composition of human beings. Human blood is predominantly alkaline while the blood of carnivorous animals is comparatively acidic. During the treatment patients are not allowed to take tea, coffee, cigarettes or any other intoxicants which also accumulate poison. Simultaneously, Six systems of Hatha-Yoga Asanas, Mudras, Pranayam and fasting are also administered to cure the patients.

In case of Asthenic patients, yoga asanas are advised to normalize the functions of their defective glands namely, lungs and tonsils. Once blood is purified through consumption of Sattawika food then it becomes

sier to remove the defects of glands through purification systems, anas and Pranayamas.

In all 144 out-door patients and 82 in-door patients were treated during 1974-75.

The results treatment of in-door patients for the period 1.4.74 to 3.75 is as follows :

Name of the Disease.	Total No. of cases.	No. of cases L.A.M.A.	No. of cases improved.
High-blood-pressure	31	—	31
Bronchial Asthma	21	—	21
Heart Disease	16	—	16
Diabetes Mellitus	14	—	14
Total	82	—	82

2.0 Project/Programme

No.	Name of the Research Organisation.	Programme
7.1.1	Yogic Treatment-cum-Research Centre, Jaipur.	Evaluation of Yoga Therapy in bronchial Asthma and chronic colitis.
7.1.2	Delhi Yoga Sabha, New Delhi.	Yoga against refractive errors and ear, nose and throat problems.
7.1.3	Vishwayatan Yogashram, New Delhi.	Effect of yogic therapy in the treatment of diabetes, asthma, rheumatoid arthritis, gastro-intestinal disorders and sinusitis.
7.1.4	Shivananda Math, Gauhati.	Evaluation of Yoga Therapy in Heart disease, High-Blood-Pressure and Peptic Ulcer.

8.0 UNANI

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8.1.0 Central Research Institute

8.1.1 The Central Research Institute (Unani), Hyderabad took up the following subjects for study availing the current facilities in the scientific technology :—

1. *BARS* : LEUCODERMA
2. *NAZIA-E-MUZMIN* : SINUSITIS
3. *WARM-E-KULIA* : NEPHRITIS
4. *SAILANUR RAHEM* : LEUCORRHOEA
5. *YARQAN* : JAUNDICE

The patients are selected from the out-patient department of the Institute on the basis of the Unani principles of diagnosis. They are admitted in the Indoor patient department for detailed study. The medical investigations and check-up like CBP, ESR, urine, stool, histopathology, etc. are done as routine. Further, Liver function tests like SGPT, SGOT serum bilirubin, thymol turbidity, total protein, AG ratio and X-rays are also made use of. Photographic follow up is also done regularly.

The research progress of the Central Research Institute, particularly in the treatment of *bars* is encouraging. The studies on *bars* are being conducted using *safoof*, *zulal* and *zamad* of *babchi*, *gandhak amlasar*, *geru* and *gulnar*.

The in-patients suffering from *bars* have been broadly divided into two main groups i.e. Group A and Group B. The Group A is called 'Munzij and Mus-hil group' and the group B as 'without Munzij and Mus-hil'.

In-patients of group B are further categorised into sub-groups as B-1, B-2, B-3 and B-4, each sub-group containing 5 patients and two of them are kept as "controls". These sub-groups have been created with the aim of finding out the effect of the medicine as administered in the form of ointment, liquid or powder or administered in the shape of all the three combined. Thus for the sub-groups different drugs have been allotted as under :—

- Groups B-1 has patients kept on *Zamad* (External only)
- Group B-2 has patients kept on *Zoolal* (Liquid by oral)
- Group B-3 has patients kept on *Safoof* (Powder by oral)
- Groups B-4 has patients kept on *Zamad+Zoolal+Safoof*.

**Observation on 210 Ont-Patients of Leucoderma together
with response information.**

Drug used	No. of patients on clinical trial.	No. of patients completely cured.	No. of patients having response between						No of patients having response below 40%
			91.99%	81.90%	71.80%	61.70%	51.60%	41.50%	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Z ₁ +Z _{I1}	70	5	3	4	3	8	18	8	21
Z ₁ +SF ₁	70	3	1	3	2	6	12	9	34
Z ₁ +L ₁ +SF ₁	70	12	10	13	10	8	7	5	5
Total	210	20	14	20	15	22	37	22	60

The response to treatment in the different groups is as below :—

Group	Average of Respons
B—1	50%
B—2	5%
B—3	30%
B—4	80%

**Age-wise classification of the out-patient and in-patient
of leucoderma**

Sex	Age group								Total
	1-10 yrs.	11-20 yrs.	21-30 yrs.	31-40 yrs.	41-50 yrs.	51-60 yrs.	61-70 yrs.	Above 70 yrs.	
Males	62	148	123	86	61	50	11	2	543
Females	135	228	98	56	37	22	1	1	578
Total	197	376	221	142	98	72	12	3	1121

The group A has showed good response in leucoderma by the method of *Munziz* and *Muns-hil*. This approach has been introduced in the in-patient department of the Central Research Institute (Unani)

(a) Total number of patients are as follows :
(From 1.4.1974 to 31.3.1975)

Follow-up cases	New cases	Grand Total
76,141	1,329	77,470

**(b) Classification of total new out-patients disease-wise and month-wise
from 1.4.1974 to 31.3.1975**

Months	Disease				Total patients	
	Leucoderma	Nephritis	Sinusitis	Jaundice	Leucorrhoea	
April, 1974	53	4	10	1	10	78
May, 1974	72	1	4	4	5	86
June, 1974	71	3	6	—	5	85
July, 1974	67	3	12	2	15	99
August, 1974	42	3	6	3	5	59
September, 1974	35	2	3	1	1	42
October, 1974	59	2	2	1	6	70
November, 1974	174	8	13	1	4	200
December, 1974	149	4	14	—	3	170
January, 1975	126	1	12	—	3	142
February, 1975	162	—	6	—	4	172
March, 1975	111	2	11	—	2	126
Total patients	1121	33	99	13	63	1329

Table showing work done on other diseases during the period under report

(i) Sex and age wise group at out-patient level :

Disease & Sex	1-10 yrs.	11-20 yrs.	21-30 yrs.	31-40 yrs.	41-50 yrs.	51-60 yrs.	61-70 yrs.	Above 70 yrs.	Total
Nephritis :-									
Males	—	2	6	6	3	2	1	—	20
Females	1	4	4	2	1	1	—	—	13
Total	1	6	10	8	4	3	1	—	33
Sinusitis :-									
Males	3	9	20	9	7	1	3	2	54
Females	2	12	19	6	4	2	—	—	45
Total	5	21	39	15	11	3	3	2	99
Jaundice :-									
Males	2	3	1	1	—	—	—	—	7
Females	2	1	1	1	—	1	—	—	6
Total	4	4	2	2	—	1	—	—	13
Lencorrhoea :-									
Females	1	14	30	10	6	2	—	—	63

(ii) Sex and age wise group at in patient level
(from 1.4.1974 to 31.3.1975)

Disease and Sex	1-10 yrs.	11-20 yrs.	21-30 yrs.	31-40 yrs.	41-50 yrs.	51-60 yrs.	61-70 yrs.	Above 70 yrs.	Total
Leucoderma :-									
Males	1	7	1	1	—	1	—	—	11
Females	8	38	4	1	—	—	—	—	51
Total	9	45	5	2	—	1	—	—	62
Jaundice :-									
Males	—	—	—	1	1	—	—	—	2
Sinusitis :-									
Males	—	—	—	1	—	—	—	—	1
Leucorrhoea :-									
Females	—	2	—	1	—	—	—	—	3
Nephritis:-									
	—	—	—	—	—	—	—	—	—

Other associated relevant activities :

The Pharmacy section purchased the raw material and prepared compound medicines like *Majoon*, *Jawarish*, *Safoof*, *Hab*, *Zoolal*, *Joshanda* etc. and supplied to the in-door and out-door patients and also to clinical research unit (Unani), Delhi for Leucoderma treatment for investigations.

Pathology and Biochemistry section performed investigations of all patients before and during the treatment.

- The Pharmacology Department has undertaken research work on the drugs which are under trial in leucoderma, sinusitis, jaundice, nephritis and leucorrhoea.

8.2.0 Composite Drug Research

8.2.1 A project to study a few currently used drugs on priority basis from the angle of different disciplines, chemical, pharmacological, clinical and pharmacognostical has been initiated at Ajmal Khan Tibbiya College, Aligarh Muslim University, Aligarh.

The drugs and problems taken up are as below :-

List of drugs

- a) *Ustukhudoos*
(*Lavendula stoechas*)
- b) *Atrilal* (*Ammimajus*)
- c) *Lehsan* (*Allium sativa*)

List of problems

- 1. *Nazla-e-Had* (Acute Coryza)
- 2. *Sual-e-Had* (Acute Bronchitis)
- 3. *Ilteab-e-Khaishoom-e-Muzmin*
(Chronic sinusitis)
- Bars-e-Abyaz* (Leucoderma)
- 1. *Zightud-dam-Qawi* (*Hypertension*)

Progress :

1. *Ustukhudoos* (*Lavendula Stoechas* Linn.) is an old Unani drug known since the time of "Galen" (131-200 A.D.) as "*Gayah-e-Jalinoos*". The drug is myqawwi (general tonic), Mufatteh (Deobstruant), Mullattif (Demulcent), 'Mane' Ufunat (antiseptic) and Mushil-e-Balgham (Phlegum agogue) according to "Galen". Cases of sinusitis having chronic infection were treated with this drug. Case studies were conducted in collaboration with modern team. The drug was given in tablet

form (0.75 gm.) made from micro-pulverized powder of the drug. Two tablet twice a day for three weeks or more administered. Results were assessed on subjective and objective basis.

Following table shows the results of the trials during the period under report :-

**Result of therapy with Ustukhudoos in cases treated
on an average period of 25 days.**

Results	No. of cases	Percentage
Cured	5	5.25
Improved	45	56.25
No change	11	13.75
Worse	2	2.50
Left against medical advice	16	20.00
Miscellaneous	1	1.25
Total	80	100.00

Atrilal (Ammi majus) has been described as an useful remedy of *Bars-e-Abyaz* (Leucoderma). Cases selected for trials with this drug in the Unit after investigation thoroughly on clinical grounds and by biopsy. The drug "Atrilal" was administered to the patients in the form of tablets (each tablet 0.75 gms.) i.e. two tablets twice daily after meals. In some cases the same drug was given in powder form to be applied locally and patient was advised to expose the affected parts to the sun for 15 minutes. The patients were periodically examined at intervals of 3-5 days. No serious side effect have been noted after using the drug. Following table shows the result of the trial during period under report.

**Result of therapy with Atrilal for an average
period of 25.57 days**

Results	No. of cases	Percentage
Cured	-	-
Improved	5	25.00
No change	2	10.00
Left against medical advise	13	65.00
Total	20	100.00

8.2.2 Pharmacognostic investigation on certain Indian Medicinal Plants used as drugs in the Unani system of medicine, in order to lay down the Pharmacognostic standards contributing towards minimising the possibilities of adulteration was taken up at Pharmacognosy Research Unit, C.D.R.S., Aligarh Muslim University, Aligarh.

Work done :

Two drugs namely "*Atrilal*" (*Ammi majus* seed) and *Ustukhudoos* (*Lavandula stoechas*) have been taken for the study and work on *Ammi majus* is in the final stage; work on *Ustukhudoos* is in progress.

The fruit of *Ammi majus* (Fam : *Umbelliferae*) which is known as '*Atrilal*' in Unani system of medicine has been pharmacognostically studied. The drug is reported to be used in the treatment of *leucoderma*, abortion, dysentary, jaundice and in duration of stomach, liver and also tumour of spleen. The drug can be identified pharmacognostically on the basis of the following points :-

- a. The cremocarp is yellowish-brown with aromatic odour and some-what bitter taste producing burning sensation when chewed which lasts for some time.
- b. Epidermis is single layered and most of the epidermal cells are having single rosettes of calcium oxalate crystals (druses).
- c. In surface view the epidermal cells are polygonal with mostly straight walls.
- d. Cruciferous as well as caryophyllaceous type of stomata are present in the ectocarp
- e. Peripheral side of each vitta towards epidermis, there are many club shaped cells.
- f. The fluorescence is greyish green when the drug is treated with TIN Na OH, in methanol and yellowish green when mounted in nitro cellulose. It is dark green when treated with TIN Na OH, in methanol and mounted in nitro cellulose.
- g. The total ash content is 6.48% and the acid insoluble ash is less than 1%.
- h. The alcohol (Toy.) soluble extractive (distilled water) are more or less the same.

- i) The stomatal number varies from 100-250 while the stomatal index from 4.68-9.7

8.2.3 Isolation, purification and characterisation of compounds known and unknown may be shown by subsequent pharmacological studies to be the active principles of these drugs was taken up as problem by Chemical Unit of the Council functioning at Aligarh Muslim University, Aligarh. A list of 101 Unani drugs were suggested for chemical investigations. As a first step in this direction, a search was made for the corresponding botanical names of these drugs. It turned out that 18 of these drugs are inorganic salts or minerals. The pharmacology of which is either known or is not considered significant. Of the remaining only about 4 or 5 drugs can be taken up for fresh studies as the other have been studied in detail both in India and abroad. The work has not sufficiently advanced to highlight here.

8.3.0 Standardisation Research

8.3.1 The Drug Standardisation Unit (Unani), New Delhi initiated the project to establish standards for single drugs used in Unani system of medicine. The following methods are broadly the steps taken up in this direction.

1. Identification of the source of the material forming the Unani medicine.
2. Pharmacognostic study of the plant with relation to morphology and anatomy.
3. Investigation of the potency, purity and freedom from admixture anatomically as well as chemically.
4. Detailed study of the chemical constituents of the single drugs.
5. Investigatory studies as referred in the works of Unani system of medicine.

Work done in progress :

A) Pharmacognostic work :

1. The Pharmacognostic work on the Unani drug '*Biranjasif*' (*Achillea millefolium L.*) was completed.

2. Pharmacognostic work on the Unani drug '*Mamira*' was done.
3. Pharmacognostic work on the Unani drug '*Kasoos*' was continued.
4. Pharmacognostic study of the Unani drug '*Madar*' was continued.
5. Pharmacognostic study of the Unani drug '*Sambhalu*' was taken up.
6. Botanical and chemical studies of *Motha* was taken up.

B) Detailed Chemical Analysis work :

Detailed chemical analysis and drug standardisation work of the following single Unani drug was taken up :—

1. *Badaward* — Whole plant
2. *Habbul As* — Seeds
3. *Madar* — Flowers and rootbark*
4. *Sambhaloo* — Leaves

Available literature was consulted on the plant materials that were extracted and some phytosterols and flavonoid components were isolated. Complete characterisation is being carried out. The flavonoid from '*Badaward*' appears to be trioxxygenated compound.

8.4.0 Clinical Research

8.4.1 Studies on '*Vajaul Mafasil*' (Rheumatoid arthritis) and *Zeequn Nafas* (Asthma) were taken up at the Clinical Research Unit, Arignar Anna Government Hospital of Indian Medicine, Madras. The following drugs have been chosen.

For Vajual Mafasil : (Rheumatoid Arthritis)

- i) Drug X : *Majoon-e-Berg-e-Sambhalu*.
- ii) Drug Y : *Majoon-e-post-e-Sambhalu*.

For Zeequn Nafas (Bronchial Asthma)

- i) Group A : *Majoon-e-Maghz-e- Galga*
(anti-eosinophilic drug)

ii) Group B : *Majoon-e-Maghz-e-Karanj*
(anti-spasmodic)

iii) Group C : *Majoon-e-Zeeq* (R.F.) useful in Asthma
with Bronchitis and Bronchiectasis above
the age of 40 years).

'X' *Majoon Berg Sambhalu* is prepared with *Berg-e-Sambhalu*
(Leaf of *Vitex Negundo*).

'Y' *Majoon Post Sambhalu* is prepared with *post-Sambhalu* (Bark
of *Vitex Negundo*)

Group 'A' *Majoon Maghz-e-Gajga* is prepared with *Maghz-e-*
Gajga (Kernal of *Gaesalpinia Bonducella*)

Group 'B' *Majoon Maghz-e-Karanj* is prepared with *Maghz-e-*
Karanj (Kernal of *Pongamia glabra*)

Group 'C' *Majoon zeeq* (Research formula) is a compound made
of the following drugs :

i) *Alsi*-1 part ii) *Methi*-2 parts

iii) *Seer*-3 parts iv) *Chilbeenj*-6 parts (Fried and powdered)

v) Honey q.s. 24
parts.

In the first series 10 gms. of the prescribed medicine was given to patients twice a day for 21 days. In the second series the treatment has been intensified and patients are given 10 gms. of medicines three times a day for a period of 14 days only. On completion of first course of treatment, intensified treatment was commenced.

Summary of Information relating to the attendance of patients and response :—

Monthly average out-patients

(a) Out-patient	New cases (Both Male & Female)	Old cases (Both Male & Female)
i) <i>Vajaul Mafsil</i>	300	600
ii) <i>Zeequn Nafas</i>	150	250

	First series completed/not completed	Second series started
I. <i>VAJAUL MAFASIL</i>	X Y	
Male X+Y=30 cases	12 = 3	
Female X+Y=30 cases—on 10.7.1974.		on 3.8.1974

II. *ZEEQUN NAFAS*

Male group A=15 cases on 2.8.1974	on 2.9.1974.
Male group B=15 cases on 29.12.1974	on 9.12.1974.
Male group C=15 cases on 23.8.1974	on 2.9.1974.

Female group A = 15 cases 3 cases

Female group B = 15 cases on 16.12.1974 on 4.12.1974

Female group C = 15 cases 7 cases

The following chart shows the results :—

Vajaul Mafasil—First Series—Male :-

Total cases to be treated : 30

(Both group X&Y)

Cases treated 27

Complete relief X - Y

9 10 = 19 Balance

Partial relief: 3 2 = 5 remaining

X : 1 Y : 2 = 3

No relief : 2 1 = 3

Percentage of complete relief 88%

Vajaul Mafasil—First Series—Females :-

Total cases to be treated : 30

(Both group X+Y)

Cases treated :	30		
Complete relief :	X	Y	
	13	11	=24
Partial relief	2	2	= 4
No relief	1	1	= 2
Percentage of complete relief 80%			

Vijaul Mafasil—Second series—Female :

Total Cases to be treated :	30		
(Both group X+Y)			
Cases treated :	17		
Complete relief	X	Y	
	6	7	=13
Partial relief	2	1	= 3
No relief	1	—	= 1
			13
Percentage of complete relief : 76%			

Zeequn Nafas : First series—Male—Group A :

Cases to be treated :	15
Treated :	15
Complete relief :	12
Partial relief :	2
No relief	1
Percentage of complete relief : 80%	

Zeequn Nafas : Second series—Male Group—A

Cases to be treated :	15
Treated :	5
Complete relief :	3
Partial relief :	2
No relief	0
	Balance remaining : 10

Zeequn Nafas : First serie—Male—Group : B

Cases to be treated : 15

Treated : 15

Complete relief : 12

Partial relief : 3

No relief : 0

Percentage of complete relief : 80%

Zeequn Nafas : First series—Male—Group :C

Cases to be treated : 15

Treated : 15

Complete relief : 11

Partial relief : 4

No relief : 0

Percentage of complete relief : 73%

Zeequn Nafas : Second series—Male—Group : C

Cases to be treated : 15

Treated : 10

Complete relief : 9 Balance remaining=5.

Partial relief : 1

Zeequn Nafas : First series—Female—Group : A

To be treated : 15

Treated : 6 Balance remaining : 9

Complete relief : 5

Partial relief : 0

No relief : 1

Zeequn Nafas : First series : Fcmale—Group : B

Cases to be treated : 15

Treated : 15

Complete relief : 13
 Partial relief : 1
 No relief : 1
 Percentage of complete relief : 86%

Zeequn Nafas : Second series : Female—Group : B

Cases to be treated : 15
 Treated : 2 Balance remaining : 13
 Complete relief : 2
 Partial relief : 0
 No relief : 0

Zeequn Nafas - First series : Female—Group : C

To be treated : 15
 Treated : 3
 Complete relief : 3

It is observed that *Majoon-e-Berg-e-Sambhalu* has comparatively better effect on *Vajaul Mafasil* than *Majoon-e-post-e-Sambhalu*.

In the cases of *Zeequn Nafas Majoon-e-Maghz-e-Gajga* has provided encouraging results in lowering the elevated eosinophil count. *Majoon-e-Maghz-e-Karanj* has anti spasmodic effect. *Majoon Zeeq's* (R. F.) results are not encouraging.

8.4.2 The following problems were taken up to evaluate the therapeutic values of certain drugs in selected clinical conditions at A. & U. Tibbia College, New Delhi.

1. *Kasrat-e Tams* (Menorrhagea)
2. *Zaheer Muzmin* and *Zusamtaria Movi* (Chroniody sentry).
3. To study the aetiological factors of *Bars* (Leucoderma) and assess the therapeutic effects of the medicines supplied by the Council.

Method of use and action of the drug and progress :

1. In cases of *Kasrat-e-Tams* (Menorrhagia) *Tukhm-e-Bartang* (*Plantato major* linn) was given orally in dose of 3 gms. twice daily with water or any other suitable vehicle. In case of excessive bleeding vaginal douche was also given with the decoction of these seeds.

No side effects have been reported. Till now *Tukhm-e-Bartang* was directed to be given in original form; now it is being given in the form of *shira* and also in the roasted form (by roasting them on low fire) in the hope of better results.

Total number of patients of *Kasrat-e-Tams* during the period of report is 26; the details are as below :—

Total Patient	No. of treated	Treated in OPD	Treated in IPD	Cured	Marked relief	LAMA
26		24	2	2	8	16

2. In cases of *Zaheer-e-Muzmin*, *Zusantaria Mevi Madar* (*Calotropis gigantea* R. Br.) has been tried. The powder of dried bark of the root (Bekh) of *Calotropis gigantea* is administered in doses of 25 mg. twice a day, after meals with curd or butter. The drug is reported to give strength to the muscular layer of the stomach and intestines. It also has a soothing effect. Some cases exhibited side effects such as headache and burning in micturation.

Total number of the patients treated for *Zaheer*, *Muzmin* and *Zusantaria Mevi* during the year was 112, as per following table.

Total number of patients treated	Trea- ted in IPD	Trea- ted in OPD	Cured	Improved	Marked relief	No. re- sponse
112	8	104	25	30	38	18 1

3. Studies on Bass (*Leucoderma*) were started in Dec. 1974.

The following pattern was adopted for these studies.

1. The first group was given powder only to be taken orally (S₁).
2. The second group was put on the decanted water of the powder (ZI).

3. The third group was supplied the medicine to be applied locally and to expose the effected part to the early morning sun rays for five to ten minutes daily (Z).
4. The fourth group was the combination of the above three.
5. The fifth group was given *Munzij Mushil* as guided by the Council.

The treatment has been planned to continue for three to four months to assess the effects.

During the period of report, 69 patients were given the treatment.

The results are encouraging.

8.5.0 Literary Research

8.5.1 The Literary Research Unit (Unani), A.K. Tibbia College, Aligarh Muslim University took up the project to collate, edit and translate into Urdu languages, rare Tibbi manuscripts of Arabic and Persian languages and to publish Urdu translations of important Tibbi Books of Arabic and Persian to serve the need of the students and scholars of Unani System.

Work done :

A. *Al-Qarashi's* (Ibnun Nafis) Commentary on Avcenna's canon.

1. Chapter XI on the diseases of heart and their treatment has been transcribed and collated with the Bhusawal manuscript.
2. From Chapter I "on the diseases of the head and their treatment" about 172 pages have been transcribed from the college manuscript and collected with the Bhusawal one.

B. Al-Hawi

1. Vol. IV has been translated into urdu. Revised and typed copy has been submitted to the Council.
2. Vol. V has been translated into Urdu and is being typed.

C. Kitabut-Taisir :

260 pages of *Kitabut-taisir* have been transcribed. Material about the life of the author and importance of the book has been collected.

D. Book on Amraz-e-Qalb-o-Riva :

Diagnosis and treatment of the diseases of heart by physicians from Hippocrates to Razi have been compiled.

That by Razi's successors such as given in *Kamil us-Sanaa*, *Moalijat-e-Boqratia Ma' it Masih* and *Ghina Muna* is being compiled.

Material has also been collected for the diseases of the lungs, as given by Razi and has predecessors in Al. Hawi and also that given by Abu Sahl *Masihi* in *Kitabul Ma'it* and Abu Mansur Qamri in *Ghina Muna*.

8.5.2 The project of editing and translating of rare Unani Medical books from Arabic to Urdu and English has been taken up by the Literary Research Unit (Unani), Lucknow.

A. Kitabul Kulliyat by Ibne Rushd.

The photostat (printed) copy of the book (size 12×15 cm., 29 lines every page) was borrowed from A.K. Tibbiya College, Aligarh. At the first stage, it was exhaustively transcribed from old and almost illegible writing into fair Arabic script. During the period under report half of the Book has been translated into Urdu which makes 668 pages of foolscap size. Every page is divided into two columns and Arabic text has also been written along with Urdu translation. Work on this book done in previous year has also been revised and again written with Arabic text.

B. Kitabul Umda Fil Jarahat by Ibnul Quf.

A fair copy of the translation of first volume of *Kitabul Umda Fil Jarahat* (from Arabic into Urdu) has been prepared which makes 339 pages of foolscap size. This has also been revised upto 112 pages.

C. Kitabul Jame Limufradatil Advia Wal Aghzia by Ibnul Baitar :

Twenty three pages from 30 to 53 pages have been translated into Urdu.

D. Survey of Raza library, Rampur and Libraries of Aligarh, Deoband and Rampur has been made.

8.6.0 Publication and participation.

S.No.	Author (s)	Title of the Article	Journal/Seminar	Name of the Research Organisation
1.	Baig, H.A. Khadeer, A.A.	Leucoderma Unani and Scientific aspects.	All India Unani Tibbi Conference, Madras.	Central Research Institute Hyderabad.
2.	Issar, R.K.	Comparative Pharmacognostic study of the genuine and commercial sample on the Unani drug 'Brinjasif' (<i>Achillea mellefolium</i>).	Scientific session of All India Unani Tibbi Conference, Madras.	Drug Standardisation Research Unit, Hamdard Building, Delhi.
3.	Issar, R.K.	Preliminary pharmacognostic study of the commercial sample of the Unani drug "mamira" (<i>Thalictrum foliolosum</i>).	-do-	-do-
4.	Khan, A.J.	Drug Standardisation in Unani Medicine.	All India Unani Tibbi Conference, Madras.	Clinical Research Unit, A.&U. Tibbiya College, Karol Bagh, New Delhi.

1.

2.

3.

4.

5.

5. Khan, H.
Zaman, A.

Extractives of *Milletia*
Ovalifolia.

'Tetrahydron U.K.
Vol. 30 pp. 2811 to 2815

Chemical Research Unit,
Department of Chemistry,
Aligarh Muslim University,
Aligarh.

6. Khan, A.J.

Deputed by the Council to
Central Research Institute
(Unani), Hyderabad to
acquaint himself with the
work already in progress
on vitiligo.

Clinical Research Unit,
A. & U. Tibbiya College,
Karol Bagh, New Delhi

7. Aziz Pasha, M.

Independent contribution
of Arabian Physicians to
the Unani Medical Science.

All India Unani Tibbi
Conference, Madras.

Indian Institute of History
of Medicine, Hyderabad.

8.7.0 Projects/Programme

S.No.	Name of the Research Organisation	Programme
8.1.1	Central Research Institute.	<p>i) To study and work on <i>Bars</i>, <i>Yarqan sailanur Reham</i>, <i>Warm-e-Kul-iya</i>, <i>Nazla-e-Muzmin</i> according to Unani System of Medicine.</p> <p>ii) To find out effective and cheap remedy for <i>Bars</i>.</p> <p>iii) To standardise Unani system of medicine by providing its effectiveness through research.</p> <p>iv) To find out effectiveness of <i>Munzij</i> and <i>Mushil</i> on <i>Akhlat-e-Arba</i> particularly in the cases of <i>Bars</i>.</p> <p>v) Role of (i) <i>Babchi</i>, <i>Kibreat Gulnar</i> and <i>Gil-e-Surkh (Geru)</i> in <i>Bars</i>. (ii) <i>Chane-ki-bhusi</i>, <i>Gule-Nilofar Gule-surkh</i> and <i>Revand Chini</i> in <i>yarqan</i> (iii) <i>Kanghi</i>, <i>Gul-e-Dhawa Long da shti</i> and <i>Nabat</i> in <i>Sailanur Raham</i>. (iv) <i>Shora Qalmi</i>, <i>Naushadar</i>, <i>Phitkary</i>, <i>Suhaga Safed</i> and <i>Kaknaj</i> in <i>Warm-e-Kuliya</i> and (v) <i>Behdana</i>, <i>Unnab</i> and <i>Sipistar-in Nazla-e-Muzmin</i>.</p>
8.2.1	Clinical Screening Unit, CDRS, Aligarh.	<p>i) Trial of <i>ustukhadoos</i> in <i>Iltehab-e-khaishoom-e-Mazmin</i>.</p> <p>ii) Trial of <i>Atrilal</i> in <i>Bars-e alayaz</i>.</p> <p>iii) Trial of <i>Lehsan</i> in <i>Zight-uddam Qawi</i>.</p>

- 8.2.2 **Pharmacognosy Research Unit, Aligarh.** To carry out pharmacognostic investigations of certain plants used in the Unani System of Medicine in order to lay down the pharmacognostic standards.
- 8.2.3 **Chemical Research Unit, Aligarh.** Isolation, purifications and characterisation of compounds known and unknown which may be shown by subsequent pharmacological studies to be the active principles of drugs of Unani System of Medicine.
- 8.2.4 **Pharmacological Research Unit, Aligarh Muslim University, Aligarh.** Pharmacological screening of the Unani Drugs.
- 8.3.1 **Drug Standardisation Unit, Delhi.** To lay down standards for drugs used in Unani system of medicine.
- 8.4.1 **Clinical Research Unit, Madras.** Studies on *Vajaul mafasil* (Rheumoid arthritis) and *Zeequn Nafas* (Asthma) and the effect of the Unani drugs.
- 8.4.2 **Clinical Research Unit, New Delhi.**
- i) Trial of *Tukham Bartang* in *Kasrat-e-Tams*
 - ii) Trial of *Post Bekh Madar* in *Zaheer-e-Muzmin* and *Zoosautaria Mevi*.
 - iii) To study the aetiological factor of *Bars* and assess the therapeutic effects of the medicines supplied by the Council.

**8.5.1 Literary Research
Unit, Aligarh.**

- i) To collate, edit and translate into Urdu language rare Tibbi manuscripts of Arabic and Persian languages.
- ii) To publish Urdu translations of important Tibbi Books of Arabic and Persian to serve the needs of the research workers, students and scholars of Unani System.

**8.5.2 Literary Research
Unit, Lucknow.**

Editing and translation of rare Unani Medical books from Arabic to Urdu and English.

9.0 SIDDHA

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- 9.7.0 Projects and Programmes.**

9.1 0 Central Research Institute

9.1.0 Madras The Central Research Institute, Madras has conducted studies on the following problems :

- i) *Vali Gunmam* (Peptic Ulcer)
- ii) *Putru Nai* (Cancer)
- iii) *Manjal Kamalai* (Hepatitis) &
- iv) *Grahani* (Chronic Gastro-enteritis).

The effect of *thambira chendooram* prepared in different process in the treatment of *vali gunmam* and *rasagandhi mezhugu*, *chandarasanbarpam*, *vangabarpam* in cases of *Putru noi* and the role of *Sangu barpam* in *manjal kamalai* and *naga barpam* in *grahani* are studied during the period under review.

The number of new cases is 30 in *vali gunmam*. The follow-up studies are in progress in the cases treated last year as well as this year. The study is taken up by a double blind technique. The diagnosis was confirmed by F.T.M. studies, Berium meal, X-ray study and other investigations. A pilot study on *putru noi* has also been taken up. The leads obtained in this programme will be utilised for study on larger population of patients suffering from *putru noi*. The study is at preliminary stage now to enable presenting a specific note of approach.

The Research programme on *manjal kamalai* and *grahani* has been presently encouraging picture.

The out-patient department has been helping in the choice of clinical conditions for research at in-door level. During the period under review, about 3,600 new cases were treated. The in-patient attendance was 49.

The pharmacy section of the Institute has been meeting medicinal requirements of Central Research Institute and Clinical Research Unit at A. A. Hospital, Madras. The Institute has been extending assistance to standardisation programme taken up at Captain Srinivasa Murthy Research Institute, Adyar, Madras.

Pharmacology and toxicology Studies on *tanbira chenduram* have been taken up on suitably designed experimental models. The study of diuretic potential of *vediyuppu chunnam*, a mineral substance and hypoglycaemic, anti-inflammatory claims of *Mimosa pudica* are also in progress. The study of hypoglycaemic potential of *kadalazhinjil* is also in progress. Anti-fertility and anti-fungal potentialities of drugs reported in Siddha system of Medicine have been planned for investigation. The effects of some indigenous drugs on *Najana Venom*, antipyretic studies of *linga chenduram* are in progress.

The departments of Biochemistry and Pathology have been assisting the Institute and the Units stationed at Madras in the research programmes.

9 2.0 Survey of Medicinal Plants

9.2.1 Survey of Medicinal Plants Unit functioning at Government College of Indian Medicine, Tirunelveli conducted medicinal plants survey in the following areas :—

Tirunelveli—Kanyakumari—Madurai—Ramnad—Salem—Kerala State—Madras & Chengalput.

The Unit is maintaining a herbarium with 536 species which have been identified. About 540 specimens need to be identified. The herb garden of the Unit has over 300 plants. The unit is maintaining a few drug museum. The Unit supplied the drugs required by the different research projects of the Council

During the survey tours, the unit collected folk-lore claims also.

Detailed reports on about 250 drugs under the Siddha system of Medicine were prepared.

The Unit has reported the following two taxa not mentioned in the flora of the presidency of Madras by J.S. Gamble and C.E.C. Fisher.

1. *Sauromatum guttatum*—*Araceae*.
2. *Mikamia scandens*—*Compositae*.

9.3.0 Drug Research

9.3.1 Captain Srinivasamurthy Research Institute, Madras.

Chemical Standardisation of the following single drugs were conducted during the period under review :

1. *Azhukuni*
2. *Marukkari*
3. *Peymiratti* and
4. *Tutti*.

9.4.0 Clinical Research

9.4.1 Clinical Research Unit, Madras. The Clinical Research in *sandhi vatha soolai* and *kalaja padai* has been showing interesting leads. The studies indicate that mercury and its salts seem to be useful along with drugs of vegetable and animal origin in those clinical conditions. Studies on *kalanja padai*, *sandhi vatha soolai* are taken up at out-patient department and in-patient department levels, respectively. Thirty eight cases of *sandhi vatha soolai* and 11 cases of *kalanja padai* were studied during the period under review.

9.5.0 Literary Research

One hundred and eighty five *cudjen leaf* manuscripts and four rare books were procured during the random field survey. A descriptive catalogue containing 150 was prepared. The collected *cudjen leaf* manuscripts were categorised under different topics like *muppu*, *karpam*, *sarakku vaippu*, *vadai vaippu* and *katugal*. Sangamuni Vaithiyam, Nigandu and Karukkadai *Nigandu* were completed.

The research in the history and literature of Siddha medicine and its concepts has also been taken up at Indian Institute of History of Medicine, Hyderabad.

9.6.0 Publication

Sl. No.	Author (S)	Title of the article	Journal/Seminar	Name of the Research Organisation
1.	Purushothaman, K.K. Chandrasekharan, S.	Extractives of Mamsarohini.	Journal of Indian Medical Research.	Captain Srinivasa- murthy Research Institute, Madras.
2.	Radhakrishanan, N. Alam, M.M.	Antifertility activity of embelin in albino rats.	Indian Journal of Experimental Biology.	C.S.M.R.I. and C.R.I., Madras.
3.	Radhakrishanan, N. Thyagarajan, R.	Preliminary investi- gations on Anti-dia- betic activity of <i>Olax scandens</i> .	III Annual Scientific meeting of the research society for study of Diabetes in India, Madras.	Central Research Institute, Madras.
4.	Radhakrishanan, N. Uma, R. Thyagarajan, R.	Chemical and Pharma- cological investigations on <i>thambira chendoo- ram</i> , a Siddha drug against induced gastric ulcers.	II Southern Regional Conference of Indian Pharmacological Society, Madras.	—do—

9.7.0 Project/Programme

S. No.	Name of the Research Organisation.	Programme
9.1.1	Central Research Institute, Madras.	<ul style="list-style-type: none">i) To study the effect of <i>tambira chenduram</i> in <i>Valigummam</i> (Paptic ulcer)ii) To assess the effect of <i>rasagandhi mezhugu</i>, <i>Chandarasa barpam</i>, <i>Vanga barpam</i> in the cases of <i>putrunoi</i> (Cancer).iii) The role of <i>Sangu barpam</i> in <i>manjal Kamalai</i> (Hepatitis)iv) The effect of <i>naga barpam</i> in the cases of <i>grahani</i> (Mal-absorbtion syndrome.)v) To study the effect of <i>Kuppaimani</i> decoction in <i>Swaskasam</i> (<i>Elaippu-Erumal</i>)vi) Chemical and pharmacological investigations on :<ul style="list-style-type: none">a) <i>Tambira Chenduram</i>.b) <i>Vediuppu chunnam</i>.vii) To study the hypoglycaemic and anti-inflamatary activities on :<ul style="list-style-type: none">a) <i>Mimosa pudica</i>.b) <i>Vediuppau chunnam</i>.

- viii) To study the anti-fungal activity of :
 - a) *Cassia alata* (Leaves).
 - b) *Bassia latifolia*.
 - c) *Bassia longifolia*.
- ix) Anti-fertility activity of EMB, DG-1 and RDG-1.

9.2.1 Survey of Medicinal Plants Unit, Tirunelveli.

Medico—botanical survey, drug collection, cultivation and supply.

9.3.1 Captain Srinivasamurthy Research Institute, Madras.

Evolving working standards for the following single drugs :—

1. *Paimiratti*.
2. *Thuthi* (All varieties).
3. *Ponnangani*.
4. *Musumuskkai*.
5. *Mutchangan*.
6. *Vaikal chedachai*.
7. *Boomi chakkari kizhangu*.
8. *Nilappanan kizhangu*.
9. *Aathi*.
10. *Sirusirupadai*.
11. *Nuna*.
12. *Kanjankorai*.
13. *Vethupadakki*.
14. *Seerusen kazhuneer*.
15. *Kalthamarai*.
16. *Amara sanjeevini elai*.
17. *Sirumani sanjeevini elai*.

**9.4.1 Clinical Research
Unit, Madras.**

- i) To assess the effect of the drug *Amber mezhugu* on *sandi vatha soolai* (Rheumatoid Arthritis).
- ii) The study of the effect of *rasagandhi mezhugu* on *Kalanjaga padai* (Psoriasis).

**9.5.1 Literary Research
Unit, Tanjavur.**

- i) To conduct survey tours for collection of cudjan manuscripts.
- ii) To edit and publish the rare works of Siddha system of Medicine.
- iii) To collect folk-lore claims during the survey tours.

**9.5.2 Literary Research
Unit, Tirunelveli.**

- i) To conduct survey tours for collection cudjan manuscripts.
- ii) To edit and publish the rare works of Siddha system of Medicine.
- iii) To collect folk-lore claims during the survey tours.

10.0 HOMOEOPATHY

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10.1.1 Central Research Institute

Various problems/programmes taken up for the study are as follows:-

- a) **Clinical study:** To investigate the therapeutic potentiality of indigenous drugs, namely *Cynodon dactylon*, *Atista indica* and *Holarrhena anti-dysenterica* in the treatment of amoebiasis.
- b) Clinical trials of a lesser know drug namely *Fagopyrum esculentum* to establish its therapeutic value in hypertension and study its drug picture.
- c) Clinical trials of lesser known drugs, to study their drug pictures and to study their effectiveness in paroxysmal dyspnoea and bronchial asthma.
- d) Standardisation of drugs.

a) **Clinical study :** 60 patients of amoebiasis were studied on the basis of the known symptom-complex, 38 patients were prescribed *Cynodon dactylon*, 9 cases were treated with *Holarrhena antidysenterica*, another 9 were prescribed *Atista indica* and the remaining 3 patients who did not correspond to any of the above groups on the basis of the known symptom complex were kept on placebo.

Table I

Break-up of cases under trial, remedy-wise and sex, age group-wise.

	Cynodon d.	Holarrhena a.d.	Glycomis p.	Placebo
Male	29	8	7	1
Female	9	1	2	2
Age group	10-73	9-55	19-43	12-35

Table II

Types of cases under trial, disease nomenclature-wise and remedy-wise

	Colitis	Colitis with hepatitiis	Total
Cynodon d.	18	20	38
Holarrhena a.d.	3	6	9
Atista I.	4	5	9
Control	3	—	3

Table III
Response information

	Improved	Stationery	Worse	App. Imp. %	Total
Cynodon d.	23	11	4	60.5%	38
Holarrhena a.d.	6	1	2	66.7%	9
Atista D.	6	3	—	66.7%	9
Placebo	—	2	1	—	3

It can be observed that *Cynodon dactylon* can be a useful remedy for gastro-intestinal disorders.

Some of the symptoms of the earlier provings reported were clinically confirmed and the following additional clinical symptoms were noted.

Proving symptom of Cynodon d.	Confirmed	Addition
1. Stool : Offensive, semisolid frequent (2/4 tmes).	Confirmed in all patients.	
2. Flatulence and disten- tion of abdomen with gurgling noise agg. in the afternoon.	Confirmed in all patients.	
3. Gripping pain in the lower abdomen with urge to stool.	Confirmed in all patients.	
4. Agg. After meal, afternoon amel. after stool.	Confirmed in only 3 patients Rest did not have this modality.	
5. Mofnificed in the proving.		Cravings for sweets (6) Salt (4) Meat (3) Warm food and drink (2) egg (2) fish (5)

6. Weakness and tiredness	Confirmed in 7 patients.	
7. Irritability of mind	Confirmed in 7 patients.	
8. Loss of appetite	Confirmed in 3 patients.	
9. Agg. in afternoon of all other complaints	Confirmed mostly in all.	
10. Constipation	Confirmed	Alternating with diarrhoea in 5 cases, whenever constipated, stools are hard and difficult to pass.
11. Not noticed in the proving	—	Disappearance of Giardia from the stools with subjective improvement in the symptom complex.
12. Not noticed in the proving	—	Bleeding piles associated with other complaints these were relieved and piles stopped bleeding with general relief of the patients.

It was also observed that on an average 10 to 12 doses (one dose=3 drops) of mother tincture of these drugs in a week's time usually exhibited their curative action and within a period of six weeks, the patient became symptom free even though a few signs remained unchanged. However, to draw a final conclusion it is necessary to continue this project till about 500 cases are investigated.

b) Clinical trials of lesser known drugs. A homoeopathic drug, less known, which is being empirically used by the profession in the treatment of hypertension, was put to a clinical trial. It is *Fagopyrum esculentum*. The aim of the trial is to investigate the therapeutic efficacy of this remedy in cases of essential hypertension and also to bring out its

symptomatology. Only such patients are selected who have no renal or cardiac pathology and whose blood pressure readings have shown a persistently high level of 150/96 mm. of Hg. A detailed clinical and laboratory investigations of the patients are carried out in all the cases before and after putting them to the trial. No dietetic restrictions of any kind like salt free diet, abstaining from alcohol tobacco etc. have been imposed.

To start with, about 200 cases were screened and 14 cases were selected for study.

The trial is inconclusive so far.

c) Three other drugs which are also empirically used by the profession on the basis of fragmentary data available were also put to clinical trial in order to explore their usefulness in the treatment of Paroxysmal dyspnea and Bronchial Asthma.

These drugs are *Cassia sophora*, *Grindilia robusta* and *Tylophora indica*.

Here again, to start with, only such patients were selected where there was no gross pulmonary or cardiac pathology. About 242 cases were screened in the OPD and were subjected to thorough clinical/laboratory investigations and fluoroscopy; 27 cases were selected for trial. From the study it was noticed that the patients responded very favourably to these three drugs.

However, the above studies will have to be extended to a large number of the cases with follow-up study before we can draw any conclusions. It may, however, at this stage, be said that this clinical trial is likely to open a new horizon in the present thinking. The entire investigational work was carried out in the various laboratories of the Institute and the documentation of the relevant data was done in the department of photography of the Institute.

d) Standardisation of drugs : Standardisation of the material used in the above clinical trials is also simultaneously undertaken in the Institute. The mother tinctures of three drugs i.e. *Atista*, *Holarrhena* and *Cynodon* were prepared from the raw material procured from the survey of Medicinal Plants Units of CCRIMH.

The work was carried out in accordance with the approved parameters of standardisation.

The complete monograph on the standardisation of *Holarrhena antidysenterica* is expected to be ready shortly. As regards the other two drugs, work is in progress.

The department of pharmacology has undertaken the biological study of the above three drugs. During the course of study, it was observed that all these three drugs exert an inhibiting influence on the spasmodic condition of the isolated guinea pig ileum induced by acetylcholine, histamines and 5 hydroxytryptamine. *Cynodon dactylon* was found to have the maximum anti-spasmodic influence.

Results of the clinical trial have corroborated this observation.

10.2.0 Regional Research Institutes

10.2.1 The Regional Research Institute, Kottayam was established on 1st April, 1974 by amalgamating the Drugs Proving Research Unit, Belgaum (Mysore) and the Clinical Research Unit, Kottayam (Kerala). The research hospital, however, started functioning from July, 1974 onwards.

The activities of this Institute centered around clinical and drug proving programmes. Under the clinical programme the following problems were selected:—

1. Bronchial asthma.
2. Diabetes Mellitus.
3. Schizophrenia and other behavioural disorders.
4. Infective hepatitis.

Table showing the analysis of cases under trial in the indoor department:

Disease entity	No. of cases		Reli- eved	Mode- rate improve- ment	Mild improve- ment	No improve- ment	Dro- pped	To- tal
	Male	Female						
Bronchial asthma	18	30	27	17	3	—	1	48
Diabetes M-g	8	1	1	4	2	1	1	9
Behavioural disorders	7	8	7	4	1	3	...	15

Bronchial asthma: 27 cases which were relieved under Homoeopathic treatment were not only made symptom free but also the patients could attend to their normal work without having any discomfort for a considerable period at a stretch. The drugs found useful in acute exacerbations were *Arsenic alb*, *Nux vomica*, *Ipcac* and *Carbo veg*. Antiasmatic drugs like *Phosphorus*, *Kali carb*, *Calc. carb* and *Bacillinum* helped to minimise the recurrence. Eosinophilic percentage was also showed marked decline.

Diabetes : All those cases which were relieved had marked symptomatic relief in a very short time. Their urine sugar also showed reduction. Drugs like *Arsenic album*, *Phosphorus* and *Thuja* were used.

An indigenous drug *Curcuma longa* (Haldi) was tried in 6x potency for clinical confirmation as on proving this drug produced symptoms similar to that of hyperglycaemia. The response is encouraging. It could prove to be a potential therapeutic agent in diabetes. The work is under progress.

Behavioural disorders : In the acute phases of behavioural disorders drugs like *Belladonna*, *Hyoscyamus*, *Sulphur* and *Stramonium* were used. Under the constitutional Homoeopathic remedy, the recurrence was minimised and the severity of the acute exacerbations were much diminished.

Owing to the limited bed-strength in the Institute, study of cases of bronchial asthma and behavioural disorders had to be restricted to the out-patient department level only.

Statement showing the analysis of such cases under trial at the O.P.D.

Disease entity	No. of cases		Relieved	Moderate improvement.	Drop out	total
	Male	Female				
Bronchial asthma	108	96	59	102	43	204
Behavioural disorders	71	46	46	39	32	117

Drug Proving : A short proving of *Curcuma longa* (Haldi) was conducted on a group of 11 apparently healthy volunteers. The symptoms so far brought out, have very close resemblance to the symptoms of diabetes mellitus. Further work is necessary to explore the indications and utility of this important drug.

10.2.2 The Regional Research Institute for Homoeopathy, New Delhi is mainly engaged in clinical and literary research. Drug Standardisation research programme has also been a signed during late 1974-75.

Clinical Research : The clinical problems that are on in this Institute are (1) Allergic rhinitis (2) Sinusitis (3) Bronchial asthma (4) Allergic dermatitis (5) Eruptive fevers (6) Tonsillitis and (7) Infective hepatitis.

Allergic rhinitis : During the year of reporting 97 cases were added. Out of these 39 were completely relieved, 30 had partial relief and 26 dropped out. The study was made with the help of following drugs.

Nux vomica, Bryonia alba, Cina, Psorinum, Sanguinaria, Sulphur, Arsenicum album, Silicea, Mercurius solubilis, Hepar sulph, Dulcamara, Pulsatilla, Arum triphyllum, Kali bichromicum and Phosphorus.

Sinusitis : 14 cases were added to the trial of which 7 cases were completely relieved, 4 had partial relief one maintained status-quo and 2 dropped out. *Pulsatilla, Nux vomina Kali bichromicum Hepar sulph, Sulphur, Arsenicum album, Arsenicum iodatum, Silicea, spigelia, Teurcium marum* were the drugs used in this programme.

Bronchial asthma : 28 cases were added to the trial out of which 11 were partially relieved, 8 were completely relieved and 9 dropped out. The drugs used were *Arsenicum album, Ipecacuanha, Bryonia alba Nux vomica, Sanguinaria Canadensis, Hepar sulphuris in potencies and Aralia racemosa Q.* In chronic phases *Sulphur, Psorinum, Kali carb., Pulsatilla, Natrum sulph., Ignatia, Cuprum met.* and *Cina* were prescribed.

Allergic dermatitis : 72 cases were studied during this year out of which 26 cases were completely relieved, 35 had partial relief, 6 maintained status-quo and one got orst and 4 dropped out. The drugs administered were *Sulphur, Graphitis, Rhsh-tox, Sepia, Mercurius solubilis, Natrum*

muriaticum, Dulcamara, Acid Nitricum, Mezerium, Arsenicum album, Apis mellifica, Cillinum, Calacarea carb and *Silicea* etc.

Tonsillitis : Thirty seven cases were included in the trial. Out of which 14 were relieved completely, 18 had partial relief and 5 dropped out. The drugs used were *Bayonia alba, Mercurius solubilis, Belladonna, Hepar sulph,* *Pulsatilla* in acute phase and *Baryta carbonica, Nafrum mnriaticum, Psorinum, Sulpher* and *Silicea* during the chronic phase.

Though it is premature to spine any conclusion about the results of the clinical trials, there is a fair indication that **THESE REMEDIES WILL BRING ABOUT SPEEDY RELIEF IN ACUTE ATTACKS** and prolong the interparoxysmal interval in paroxysmal diseases. It was also observed that these remedies not only control the presenting complaints but also control the associated symptoms and underlying diathesis. Clinical trials in these common ailments will continue during the current year also till sizeable data are collected and a definite conclusion could be drawn therefrom.

Literary Research: The review and rivision of the Kent's Repertory is also in progress. The chapters on Mind and Locomotor system have been completed. These additions are suggested on the basis of references made in the source books of meteria medica like *Hering's Guiding Symptoms, Allen's Encyclopedia* and *Clarke's Meteria medica*, etc.

Drug Standardisation : The Drug Standardisation Unit which was functioning at the All India Institute of Medical Sciences, New Delhi has been shifted to this Institute. Preliminary chemical standards of mother tincture *Curcuma longa* have been worked out.

10.3.0 Standardisation Research

10.3.1 The Drug Standardisation Unit at Patna has taken up the study relating to determining of the various physico-chemical and pharmacognostical standards of raw meterial as well as of the finished products (mother tincture). These investigations were conducted in accordance with the various parameters laid down by the working group on standardisation.

Preliminary work on the following drugs has been initiated :-

1. *Artemisia maritima*
2. *Cannabis indica*
3. *Cannabis sativa*
4. *Hydrocotyle asiatica*
5. *Holarrhena antidysenterica*
6. *Nux vomica*
7. *Solanum nigrum*
8. *Tylophora indica*

The samples of these drugs were procured from the various Survey of Medicinal Plants Units of the CCRIMH. Information available with the Pharmacological Units of Ayurveda was also utilised.

In order to maintain the uniformity in identifying the correct specimen, a study was conducted with a view to lay down certain definite standards and the details were collected on the above drugs.

The study to determine the shelf-value of the drug/mother tincture was continued during this year also.

During the course of investigation it has been observed that a few drugs in their mother tincture form are not having their shelf value beyond one year.

Further investigation in this line are in progress.

10.4.0 Clinical Research

10.4.1 The clinical research studies on Rheumatic fever and Bronchial asthma were taken up at Clinical Research Unit, Gudiwada.

Rheumatic fever : During the year of reporting 41 new cases of Rheumatic fever were added in the series and 16 old cases were observed for follow up studies. Of the 57 cases of present series 19 cases were hospitalised and 38 were studied at the OPD.

The present series include 6 acute cases of Rheumatic fever seeking treatment during the first attack. The duration of treatment in individual cases varied from a few weeks in the acute, to a few months to 2½ years in the chronic types of cases. The great majority of cases belonged to age group between 5-15 years.

Complete subjective and clinical improvement has been observed in all the cases. Subjective improvement is found earlier to clinical improvement. The various investigations corroborate the observations. There is reduction in the enlargement of the tonsils in the cases where it was present at the time of commencement of treatment.

Bryonia, Rhus tox, Lachesis, Arsenic alb, Senega, Ignatia, Pulsatilla, Lac. can; Spigelia, Arnica, Verat alb, Kalmia, Nat. mur, Calc. carb, Kali carb, Coccus cacti are the commonly indicated drugs for acute exacerbations. *Lycopodium, Thuja, Sulphur* and *Calc.carb* are found antimiasmatic drugs in these cases.

Medorrhinum and *Tuberculinum* are also used. ESR was observed to decrease with the following drugs :-

Kali carb, Lycopodium, Pulsatilla, Lachesis, Medorrhinum, Rhus tox, Sulpher, Bryonia and *Thuja*.

ECG changes were noted with *Lycopodium* and *Senega*. Under *Bryonia, Lycopodium, Coccus cacti* pathological conditions returned to normal.

From the present series it has been observed in general that homoeopathic remedies are capable of lessening the frequency, severity and duration of the recurrence and preventing the involvement of the heart over a period of time. Further it has been observed that the general condition of the patients improved and associated complaints like menstrual dysfunction, disturbances in vision and hearing, skin conditions like dermatomycosis and fungus infections showed remarkable regression. Along with the subjective and clinical improvement in the condition many of the cases showed considerable fall in ESR and improvement in the Hb. percentage.

It is proposed to study the cases in the present series over a period of time under further treatment and with necessary follow up and investi-

gation to establish the claims that appropriate homoeopathic treatment of rheumatic fever not only relieves the paroxysms but also checks the tendency for future recurrences and eventually eradicates the underlying rheumatic diathesis and ensures permanent cure.

BRONCHIAL ASTHMA :

During this year 37 new cases of Bronchial asthma were added in the trial and 6 old cases were observed for follow-up studies. Of 43 cases of present series 16 cases were observed in the indoor patients department and 27 cases were studied at the O.P.D. level.

Present series include 4 acute cases of Bronchial asthma seeking treatment during the first attack.

The duration of treatment in individual cases varied from a few months to an year in the chronic cases. Most of the present series cases come under the teen age group.

Complete subjective and clinical improvement has been observed in all the cases.

In those cases which presented suppressed skin condition, during treatment the suppressed skin condition reappeared with improvement in the chief complaints with regard to the number, severity and duration of the paroxysm, thus verifying the truth of the Hering's Law of Direction of Cure.

Homoeopathic treatment aims at relieving the patient of the acute exacerbation in cases he seeks treatment during an episode and then to give constitutional treatment to eradicate the allergic diathesis under an appropriate diet and regime suitable to the needs of the individual patient. Homoeopathic constitutional treatment aims at rendering the patient unsusceptible to eliminatable predisposing and exciting causes and eventually ensure a permanent cure.

Ipecac, Arsenic, Pulsatilla, Lachesis, Bryonia, Coccus cacti are commonly indicated drugs for the acute exacerbation.

Thuja, Sulphur, Cal. carb, Lycopodium are the antimiasmatic drugs indicated in this series.

Medorrhinum, *Tuberculinum*, *Psorinum* were the nosodes used. Drugs under which the ESR and Eosinophils observed to be decreased are : *Lachesis*, *Pulsatilla*, *Tuberculinum*, *Medorrhinum*, *Lycopodium*, *Ipecac*, *Kali carb* and *Carbo veg*.

It is proposed to study these cases over a period of time to rule out the possibility of further recurrences and eventually to establish the fact that homoeopathic treatment eradicates the underlying diathesis and restore the patients to the previous state of health permanently.

The Clinical Research Enquiry at Banaras Hindu University after establishing the role of 200th potency of *Caulophyllum thalictroids* as an implantation interrupter in rats through the various histo-chemical investigations on the pro-oestrus, oestrus and dioestrus rats, the total estimation of proteins of the ovaries of the rats in pro-oestrus, oestrus and dioestrus groups, has taken up a study to establish the pathways and the mode of action of this drug on mammalia reproductive organs during the year under report.

The experiments were conducted on the hypothalamic extracts (ME-complex), on control (alcohol fed), ovariectomised and 200 and 1000 potencies of *Caulophyllum thalictroids* administered in ovariectomised rats.

The results of this experiment are suggestive that the drug action is through the hypothalamus and that the hypothalamo-hypophysial gonadal axis does exist. It was also observed that the drug does not act directly on the target organs namely ovaries and uterus. Further studies in this direction are in progress.

Another study is made to find out the possible influence *Caulophyllum* 200 on the early neonatal period in female albino rats in order to assess subsequent effects on the sexual life at the later stages. This work is in progress.

Study is also made on the protein, DNA, RNA content of the ovaries of rats to ascertain whether *Caulophyllum* has any oestrogenic properties. These studies have to be extended. This work is also in progress.

The experimental work on *Pulsatilla nigra* 30 and 200 potencies had also been undertaken during the year 1974-75 on the ovaries uteri and thyroids of rats. The results obtained so far are suggesting that the *Pulsatilla nigra* in potency has more progesterogenic properties than the oestrogenic. Further experiments in this direction are also in progress.

10.5.0 Drug Proving Research

10.5.1-10.5.4 The K.N.H. Homoeopathic Medical College, Bhagalpur, D.N.Dc. Homoeopathic Medical College and Hospital, Calcutta, National Homoeopathic Medical College, Lucknow and Midnapore Homoeopathic Medical College and Hospital, Midnapore were engaged in proving the coded drugs that are sent from the headquarters from time-to-time. The proving is conducted by double blind technique.

Lucknow unit has concluded the proving on *Cassia sophora* and at present the proving on the second coded drug is in progress. The compiled report on the proving of *Cassia sophora* is annexed.

The confirmatory proving of *Abroma augusta* and *Kali mur* were conducted in the other three units. The confirmatory proving on *Abroma augusta* and *Kali mur* do not materially differ from that of the earlier proving conducted elsewhere. The proving on the second coded drug is in progress in these units.

The first proving report of Cassia Sophora

- i) Potencies : 200, 30, Q, Q, 30, 200
- ii) No. of Provers : Male : 20
 Female : 10

 Total : 30

iii) Duration : 1972 to 1974

N.B.:- In the parenthesis, the first digit denotes the number of provers in whom the symptom appeared, the second digit denotes the number of recurrence of the particular symptom in a prover; and the third digit denotes the potency administered after which the particular symptom noted.

MIND :-

- | | |
|---|-----------|
| Excessive irritability' angry on slightest provocation and on trivial matters | (1,1,Q) |
| Desire to be alone | (2,1,Q) |
| Impulse to commit suicide | (1,1,Q) |
| Afraid to go to sleep least his heart would stop | (1,1,Q) |
| Desire to weep | (1,1,Q) |
| Desire to walk in open air | (1,1,Q) |
| Anxiety with restlessness | (1,1,Q) |
| Desire to lie down quietly | (1,1,30) |
| No desire to work | (1,1,200) |
| Imagines seeing ghosts on closing the eyes | (1,1,200) |

VERTIGO :-

- | | |
|---|---------|
| Vertigo with nausea | |
| Agg. standing, sitting up from lying position | |
| Amel. lying down | (1.1.Q) |

	Vertigo with fever, feels as if intoxicated	
	Agg. Movement	(1,1,200)
	Giddiness followed by nausea	(1,1,200)
HEAD :-		
	Shooting pain in head.	
	Agg. noises	(1,1,30)
Forehead	Bursting pain	
	Agg. movement, exertion, bending the head forward.	
	Amel. pressure, tight bandage, open air, lying down	(3,1,30,200)
	Hammering headache	
	Agg. Heat,	
	Amel. Gentle pressure	(1,1,30)
	Dull aching headache in right Supra-orbital region extending to left side and spreading to whole frontal region	
	Amel. pressure, night	(1,1,200)
	Sensation of heat in the forehead	
	Agg. Sun	
	Amel. Cold bath	(1,1,30)
Temporal	Dull aching headache in temporal and frontal regions	
	Agg. 11 A.M.	
	Amel. hard pressure	(1,1,30)
Pariental	Right side shooting headache with nausea and cold sweat on the body and accompanied with pressing pain in and above the right eye.	
	Agg. opening eyes	
	Amel. keeping the eyes closed	(1,1,Q)
Vertex	Stitching pain	
	Amel. massage	(1,1,Q)

N.B. In one prover it relieved headache which was present before proving dating back to corneo-plasty.

FACE :-

Shooting pain in the upper jaw at night preventing sleep	(1,1,200)
Ulcer on the lower lip	(1,1,Q)
Eruption around the angle of mouth right side tenderness	(1,1,200)
Perspiration on the face with fever	(1,1,Q)

EYE :-

Pain in both the eyes	
Agg. bending head forward	(1,1,Q)
Dull aching in both the eye balls	
Amel. closing the eye	(1,1,30)
Redness of eye with fever	(1,1,Q)
Heaviness of the eyelids	
Amel. Cool, open air	(1,1,30)
Sensation as if eyes are filled with tears but no actual lachrymation	
Amel. cool open air	(1,1,30)

NB :— Trachomatous panus disappeared during the course of proving in one of the provers.

EAR :-

Rt., pain in, throbbing, extending to left ear and teeth with feverishness and headache.	
Pain appears suddenly and disappears suddenly	
Agg. night, lying down, motion	(1,2,30)
On Exam : Otitis externa	
Rt., Itching in	(1,1,200)
Earache, Agg. eating	(1,1,30)

NOSE :-

Sensation as if blocked	(1,1,Q)
Dryness of the nose in the morning but watery discharge as the day advances	(1,1,Q)
Blockage of both the nostrils	(1,1,30)
Blockage of nostrils followed by watery discharge	(1,1,30)
Coryza, profuse thin, watery bland discharge, with sneezing after getting wet	(1,1,200)
Irritation in both the nostrils with sneezing after exposure to cold air and bath	
NB:— On terminal medical examination one prover had developed deviated nasal septum. In other prover deviated septum was found corrected at the end of the proving.	

THROAT :-

Dull pain in, Agg. swallowing, hot drink Amal. cold beer	(1,1,Q)
Pain in throat with feverishness	(1,1,30)
Rt. side stabbing pain in Amel. swallowing, cold things. On Exam : Bilateral follicular Tonsillitis with Pharyagitis	(1,1,Q)
Rt. Side, pricking pain with weakness Agg. swallowing, talking On exam : Follicular tonsillitis with congestion of post. pharyngeal wall	(1,1,Q)
Pricking pain in the throat with soreness and hoarseness of voice Agg. morning, talking Amel warmth, hot drink	(1,2,Q)
Dryness of throat Amel. sipping cold water	

On exam. : Acute inflammation of the Pharyngeal and laryngeal mucosa	(1,1,Q)
Pain in the throat with sensation as if lump of mucus is lodged and difficult to raise, expecto- ration white mucoïd, salty, and in little quantity; stringy expectoration;	
Burning sensation in throat Agg. by cold air, cold application swallowing amel. Hot tea	
On exam : Post pharyngeal wall congested	(1,1,30)
Tearing pain in the throat with raw feeling and hoarseness of voice. Agg. night, cold drink Amel. lying down, tea, warmth	(1,1,20)
MOUTH :- Excessive salivation with impaired taste	(1,1,Q)
Tongue: Yellow coated of tongue with fever	(2,1,30)
Brown coating of tongue with fever	(1,1,Q)
TEETH : Pain, tearing in the teeth and gums with ear-ache Agg. eating	(1,1,30)
STOMACH :-	
Aversion to bread	(1,1,Q)
Thirstlessness	(1,1,30)
Thirst for cold water in large quantity at frequent interval	(1,1,200)
Thirst for small quantity of water at frequent intervals	(1,1,200)
Nausea and retching	(1,1,30)
Nausea with bitter taste in the mouth	(1,1,30)
Vomiting mixed with dark clotted blood with feverishness	(1,1,30)
Excessive hunger : gnawing sensation in the epigastrium Amel. eating, taking milk	(1,1,200)

Nausea following giddiness	(1,1,200)
Pain, boring, epigastrium with nausea by taking fried rice	(1,1,200)

ABDOMEN :-

Dull pain lumber regions Agg. evening Amel. after stool	(1,4,Q)
Pain, squeezing, Rt. hypochondrium extending to chest with anxiety and loss on sleep Agg. Lying on Rt. side, walking, fatty food, changing position Amel. lying on Lt. side, rest	(1,4,Q)
Pain, cutting, hypogastrum intermittent, followed by diarrhoea with mucus and blood Agg. after stool Amel. night	(1,1,30)
Pain, burning, in umbilical region and hypogastrum with excessive flatus. Desire to take cold things. Pain Amel. lying on abdomen Amel. passing flatus Amel. after stool	(1,2,30)
Pain, griping followed by nausea and retching Agg. movements Amel. pressure of hand or pillow	(1,1,30)
Pain, piercing, Lt. lower abdomen followed by nausea	
Pain radiating upwards; with restlessness, anxiety and thirst. Thirst for small quan- tity at frequent interval Agg. cold, movement Amel. Hot fomentation	(1,1,200)
Pain, griping, epigastrium, suddenly appearing and disappearing distension	

of abdomen and nausea Amel. after stool	(1,1,200)
Heaviness of the abdomen with gurgling noises Amel. after stool	(1,1,200)
Pain in the abdomen on coughing	(1,1,200)

RECTUM AND STOOL :

Ineffectual urging for stool	(1,1,30)
No desire for stools for 3-4 days	(1,1,200)

CHEST :

Lt. side, dull pressing pain with difficulty in breathing after exposure to damp weather Agg. motion, cold Amel. lying down on right side, drinking hot milk	(1,1,Q)
Right side, bruised pain Agg. touch, pressure, morning	(1,1,200)
Cardiac region, trembling feeling in, with great fear Agg. lying on left side Amel. lying flat	(1,3,200)
Pain in the chest with feverishness	(1,1,30)
Pain in chest on coughing	(1,1,200)
Middle, tight feeling in, with burning sensation and cough	(1,1,200)

RESPIRATORY SYSTEM :

Difficulty in breathing	(1,1,Q)
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VOICE :

Hoarsness of voice	(1,1,200)
	(1,2,Q)

BACK AND NECK :

Back ache with fever	(2,1,30)
Heaviness of the neck	
Agg. bending forward	
Amel. pressure	(1,1,200)
Lumbar region, pain in	
Agg. bending forward	
Amel. pressure	(1,1,200)
Perspiration on neck with fever	(1,1,Q)
Left shoulder, pinching pain in spot	
Agg. lying down	
Amel. pressure	(1,1,Q)
Left shoulder, tearing pain in	
Agg. pressure, motion, lying on lt. side.	
Amel. lying right side, sitting quietly	

EXTREMITIES :

(Lower)

Pain tearing in both hip joints and pain in left calf muscle.	
Agg. pressure, motion, lying on left side.	
Amel. lying right-side, sitting quietly	(1,2,Q)
Profuse sweating of soles and palms lasting few minutes only	(1,1,200)
Left leg, tearing pain in	
Agg. warmth	
Amel. pressure	(1,1,30)
Tiredness of lower limb	
Agg. sitting, daytime	
Amel. walking, movements, night	(1,1,30)
Tearing pain in starting in both knee joint and then spreading all over	
Agg. movement	
Amel. lying down	(1,1,200)

Heaviness and dull aching in the thighs.
 Agg. cold air, getting up
 Amel. pressure, continuous movement (1,1,200)
 Tearing and dull ache with trembling
 sensation in the knees
 Agg. standing
 Amel. movements (1,1,200)

BLOOD :

Reduction in Eosinophil count from 15% to
 4% at the end of proving (1,1,200)
 Increase in Eosinophil count from 3% to 10%
 without any apparent symptoms (1,Q)

SKIN :

Intense itching with eruptions in hypogastric
 region, burning pain after scratching, sticky
 discharge
 Agg. after scratching, night warmth,
 uncovering.
 Amel. open air, while scratching (1,1,Q)
 On exam : Ringworm in the thighs (1,1,Q)
 Eruption on the thighs (1,1,Q)
 Macular eruption on the bridge of nose with
 pricking pain.
 Turning into vesicles, painful
 Amel. cold application (1,1,Q)
 Rash with intense itching in thighs
 Agg. washing with cold water
 Amel. rubbing gently (1,1,30)
 Macular eruptions around the left angles of
 mouth with itching and burning eruptions
 appeared in one crop (1,1,200)

SLEEP AND DREAMS :

Drowsiness (1,1,200)

Dreams of dark giants

Awakes around 3 a.m. with fright with
heaviness of head and dark spots before eyes
in the morning (1,1,200)

CHILL AND FEVER AND PERSPIRATION :

From 8 P.M to 3 P.M.

Restlessness and
body ache with general weakness
Agg. lying
Amel. open air (1,1,Q)

Fever in the evening preceeded by chill,
chill begins from the lower limbs, lame bruised
feeling all over the body
with redness of eye
with perspiration on face and neck and with
brown coating of tongue (1,1,Q)

Feverishness with pain in chest and throat
Agg. evening
Amel. covering

Vomiting mixed with dark clotted blood (1,1,30)

Restlessness (1,1,30)

Fever with frontal headache yellow coated
tongue, backache (2,1,30)

Fever preceeded by chill. bodyache dryness of
mouth and lips, intense thirst, bitter taste,
coated tongue, constipation, weakness and
nausea (1,4,Q)
(30,200)

Feverishness in the evening (1,4,200)

Remittent fever (1,1,200)

Feverishness with bodyache with shivering (1,2,30)

Feverishness with soreness of
the body, bursting headache and prostration (1,3,200)

Feverishness with headache, bodyache and nausea	(1,1,30)
Feverishness after chill, chill all over the body, dryness of mouth with thirst, afraid to take water because of chill feeling, temp. 103° F. perspiration all over the body	
Fever subsiding after sweating	(1,1,200)
Feverishness after getting wet	(2,1,Q)
Feverishness due to exposure of cold	(1,1,200)

GENERALITIES :

All complaints such as headache fever, vertigo, cough, pain in lower extremities flatulence, Amel. at night	(1,1,200)
Dull bodyache, pain especially in lower extremities	
Agg. motion	(1,1,Q)
Amel. pressure	
Restlessness	(1,1,30)
Soreness of the body with feverishness	(1,3,200)

10.6.0 Publications and Participations

S. No.	Authors	Title of the Article	Seminar/Journal	Name of the Research Organisation
1.	Chandrasekhar, K. Vishwanath Rao, C.	Effect of the hypothalamic extract of ovariectomised and 200 & 10,000 potencies of <i>Caulophyllum</i> administered in rats on the pituitary, the thyroids, the uteri and the ovaries of normally cycling rats in oestrous.	i) Indian Science Congress Association held at New Delhi in January, 1975 ii) Sent to American Journal of Homoeopathy U.S.A.	Clinically Research Enquiry, Varanasi.
2.	Muzumdar, K.P. Verma, P.N. Vikramaditya Augustine, V.T.	Belladonna (Homoeopathic Studies).	Hahnemannian Gleanings	Drug Standardisation Unit (Homoeopathy), Patna.
3.	Verma, P.N. Singh, V.P. Mohd. Hanif	Colour index of Homoeopathic mother tinctures	—do—	—do—
4.	Verma, P.N. Vikramaditya	Study of Crystals & Sublimates one of the basis for identification of Homoeopathic drugs.	—do—	—do—

10.7.0 Project and Programmes

S.No.	Name of the Research Organisation	Programme
10.1.0	Central Research Institute,	
10.1.1	Calcutta.	<ul style="list-style-type: none">i) Continuation of Clinical study of indigenous drugs—<i>Cynodon dactylon</i>, <i>Atista indica</i>, <i>Holarrhena antidysenterica</i> in the pathology of amoebiasis.ii) Clinical trials of a lesser known drug namely <i>Fagopyrum esculentum</i> to establish its therapeutic value in hypotension.iii) Clinical trials of lesser known drugs, to study their drug pictures and to study their effectiveness in paroxysmal dyspnoea—bronchial asthma.iv) Standardisation of indigenous drugs—<i>Cynodon dactylon</i>, <i>Atista indica</i>, <i>Holarrhena antidysenterica</i> and to check the standards of these drugs drawn by other standardisation units.
10.2.0	Regional Research Institute,	
10.2.1	Kottayam.	<ul style="list-style-type: none">i) Continuation of Mental Research Scheme (schizophrenia and other behavioural disorders).

ii) Clinical study to determine the efficacy of Homoeopathic drugs on Bronchial asthma, Diabetes and Infective hepatitis.

iii) A short proving of *Curuma longa* (Haldi).

10.2.2 New Delhi.

i) Continuation of Clinical study to determine relative efficacy and period of treatment involved as compared with the existing known treatments in cases of Tonsillitis, Sinusitis, Allergic rhinitis, Bronchial asthma, allergic dermatitis, eruptive fevers and infective hepatitis.

ii) Continuation of the study of review and revision of Kent's Repertory.

iii) Preliminary standards of the Homoeopathic mother tincture *Curcuma longa*.

10.3.0 Drug Standardisation Research

10.3.1 Patna.

i) Preliminary standards of Homoeopathic mother tincture *Artemisia Maritima*, *Cannabis indica*, *Cannabis sativa*, *Hydrocotyle asiatica*, *Holarrhena antidysenterica*, *Nux vomica*, *Solanum nigrum*, *Tylophora indica*.

10.4.0 Clinical Research

10.4.1 Gudivada

Continuation of clinical studies on Rheumatic diseases and Bronchial asthma.

- | | | |
|--------|--|--|
| 10.4.2 | Varanasi | <p>i) Continuation of clinical pharmacological screening of <i>Caulophylum thalictroides</i> as an implantation interrupter.</p> <p>ii) Screening of <i>pulsatilla nigra</i> on the above lines.</p> |
| 10.5.0 | Drug Proving Research | |
| 10.5.1 | Drug proving Research Unit, Bhagalpur. | Proving of coded drug. |
| 10.5.2 | Drug Proving Research Unit, Calcutta. | Proving of coded drug. |
| 10.5.3 | Drug Proving Research Unit, Lucknow. | Proving of coded drug. |
| 10.5.4 | Drug Proving Research Unit, Midnapore. | Proving of coded drug. |

11.0 Family Planning Research

CONTENTS

- 11.1.0 Clinical Research**
- 11.1.1 Bombay**
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- 11.1.6 Patiala**
- 11.1.7 Trivandrum**
- 11.1.8 Varanasi**
- 11.2.0 Chemico-Pharmacological Research**
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- 11.3.0 Publication & Participation**
- 11.4.0 Project & Programme**
- 11.5.0 Project in operation**

11.1.0 (Clinical Research)

11.1.0 The Clinical Research Unit functioning at Regional Research Institute, Trivandrum carried out trials with *Vidangadi Yoga* (*Vidanga/ Embelia ribes*). *Japakusum* (*Hibiscus rosasiensis* and *Hingu* (*Ferula narthex*) in equal proportion. One tablet thrice a day with *kanjika* for five days during menstruation was earlier administered but the dose was later changed to two tablets thrice a day to avoid inadequacy of the dose, the dose was altered to three tablets thrice a day. Three hundred and eighty four cases were recorded upto the end of March, 1975. Follow-up study was made on 21 cases as the individuals seldom reported or attended regularly in spite of all instructions and advise. Of these, only one case completed 40 cycles and the rest are within 10 cycles. The pill acceptability was a problem faced here.

The Clinical Unit functioning at Government Ayurvedic College, Lucknow also carried studies on *Vidangadi Yoga*. A tablet containing 800 mg. is administered thrice a day for first five days of menstruation. Of the 808 cases administered the drug since inception, 593 subjects only are continuing it. The side effects noticed by teams trying this recipe commonly are nausea, vomiting, burning sensation in the chest and menorrhagia at times. Information relating to cases that covered 10 cycles or above is shown below :—

Cycles	Cases
11—20	96
21—30	43
31—40	117
41—50	129
51—59	41

The Family Planning Unit functioning at R. A. Podar Medical College, Bombay has taken up study of effectiveness of V.T.P. tablets *Vidanga* (*Embelia ribes*) *tankan* (*Borax*) and *pippali* (*Piper longum*) as contraceptive. Two tablets (Each of 1 gm.) is administered with milk or water for 16 days from the fifth day of menstruation. The drug was administered to 392 individuals but only 47 are at present continuing

the drug. Hyperacidity, delayed menstrual period and cramps in legs are observed in some of the cases during the drug trial.

The Family Planning Unit functioning at Regional Research Institute, Calcutta started trial of *Pippalyadi Yoga* (*Pippali* (*Piper longum*), *vidanga* *Embelia ribes*)' and *tankan* (Borax) 1 gm. dose is given from the first day of menstrual cycle for 10 days. The drug was administered in 167 subjects, but 71 are continuing the drug. The side effects observed are similar to the ones reported above.

The Central Research Institute, Patiala and Regional Research Institute, Jaipur have also taken up to Clinical trials. The work is in progress.

The Family Planning Unit at Banaras Hindu University, Varanasi tried K capsules and J capsules. Trial of *Talisadi Yoga* was discontinued as on encouraging results were observed. At present trial with K and J capsules are going on.

The K capsules are given twice a day for 5 days and they are followed by one capsule twice a day for another 10 days from the fifth day of menstruation.

One J capsule is administered for 15 days from seventh day of menstruation. Of the 215 subjects given K capsules, 35 are continuing. In case of J capsules, of the 19 cases, 13 are continuing. No side effects were noticed.

The Family Planning Research Unit (Unani) functioning at Nizamia Tibbia College, Hyderabad is studying the effect of the white *ghungchi* seed (*Abrus precatorius* and *chawal-ki-bhaji*. Two more formulations Q. M. H. and *chob-e-Toohar* were taken up for study recently. One white *ghungchi* seed put in a capsule and was given once a day after breakfast for 3 days after menstrual cycle. Powder of shade dried *chawal-ki-bhaji* leaves is given twice a day for three days after menstrual cycle or delivery. This is administered for three cycles and it is expected to keep the women sterile for one year. The drug is to be repeated at the end of each year for three cycles. Four hundred and sixty six subjects have been administered the drug and 408 are being followed up. The side effects noticed were in the form of excessive bleeding, shortened menstrual cycle, nausea, vomiting and giddiness.

11.2.0 Chemico-Pharmacological Research

11.2.0 Chemico-pharmacological screening of natural products for their contraceptive potentiality was taken up. Petroleum their extract and alcoholic extract of *Nigella stivum* (*kolonji*) benzene extract of root of *Gossypium herbaceum* (*karpasa moola*) seem to possess promising activity. The work of *Ocimum basilicum* (*Tulasi*), *Asparagus racemosus* (*Shatavari* and *Curcuma longa* (*Haridra*) has not shown such lead. The aqueous extract of *Embelia ribes* (*vidanga*) has been separated into various fractions and one of these have shown encouraging response. The work is in progress.

A coded drug AYUSH-47 has been screened for its contraceptive potentiality. This was screened phamacologically for its effect on oestrous cycle and mating behaviour on female rats and it was found that the mating of treated animals is affected while the oestrous cycle remains un-affected. In albino rats the drug in doses of 1-5 mg/100 G body weight produced 71.4% antiimplantation effect. The drug when administered in the post-implantation period i.e. from 6th to 9th day of pregnancy also produced antifertility effect. Foetal loss was higher during this period when the drug is given. The drug does not seem to produce significant oestrogenic, anti-oestrogenic, progestational and regonic or anti-gonadotropic activity in rats. In the chronic toxicity and it did not produce any significant pharmacological actions on isolated tissues except a slight increase in the force of contraction of the frog's heart.

In dogs, it slightly increased the amplitude of contraction of respiration. The drug did not exhibit gross teratogenic effects. The studies reveal that the drug is non-toxic and can be used with safety in 125 mg./100 G and above. It has anti-implantation and anti-progestational effect. The drug is found to be non-toxic upto a dose of 80 mg/100 G body weight. Further pre-clinical studies are needed before a mass scale trial is recommended.

11.3.0 Publication/Participation

S. No.	Author (s)	Title of the article	Journal/Seminar	Name of the Research Organisation.
1.	Shuganathan, D.	—	II Regional Conference of Indian Pharmacological Society, Madras.	Chemico-pharmacological Research Unit, Trivandrum.
2.	—	Anti-fertility effect of <i>Hibiscus rosasinensis</i> .	Journal of Research in Indian Medicine.	Family Planning Research Unit, Varanasi.
3.	—	Clinical Trial of <i>Talisdhiyoga</i> as an oral contraceptive agent.	—do—	—do—
4.	—	Clinical trial of 'K' capsules as an oral contraceptive.	X Scientific Seminar in Indian Medicine Institute of Medical Sciences, Banaras Hindu University, Varanasi.	—do—

11.4.0 Project/Programme

Name of the Research Organisation	Programme
11.1.1 R.A. Podar Ayurvedic College, Bombay.	Clinical Screening of V.T.P. tablets.
11.1.2 Regional Research Institute, Calcutta.	Clinical Screening of <i>Pippalyadi yoga</i> .
11.1.3 Nizamia Tibbia College, Hyderabad.	<i>Ghungchi</i> with <i>Chawal-ki-bhaji</i> .
11.1.4 Regional Research Institute, Jaipur.	Clinical Screening of <i>Vidangadi Yoga</i> .
11.1.5 Government Ayurvedic College, Lucknow.	Clinical Screening of <i>Vidangadi Yoga</i> .
11.1.6 Central Research Institute, Patiala.	Clinical Screening of <i>Pippalayadi yoga</i> . <i>Daucus carota</i> (at AIIMS).
11.1.7 Regional Research Institute, Trivandrum.	Clinical Screening of <i>Vidangadi Yoga</i> .
11.1.8 Banaras Hindu University, Varanasi.	K & J capsules.
11.2.1 Orissa Agricultural University, Bhubaneswar.	1. AYUSH 7, 10, 47. 2. <i>Plumbago rosea</i> 3. <i>Hibiscus rosasinensis</i> 4. <i>Melia azadirachta</i> 5. <i>Piper longum</i> 6. <i>Embelia ribes</i> 7. <i>Abies webbiana</i>

- 11.2.2 Gujarat Ayurved University, Jamnagar.
1. *Ocimum basilicum*
 2. *Nigella sativa*
 3. *Asparagus racemosus*
 4. *Gossypium herbaceum*
 5. *Abies webbiana*
 6. *Curcuma longa*
 7. *Embelia ribes*
 8. AYUSH—47.
- 11.2.3 Central Research Institute, Patiala.
1. *Embelia ribes*
 2. *Daucus carota*
 3. *Centella asiatica*
- 11.2.4 Government Medical College, Trivandrum.
1. AYUSH—47.
- 11.2.5 Banaras Hindu University, Varanasi.
1. *Hibiscus rosa-sinensis*
 2. *Embelia ribes*
 3. AYUSH—47

11.5.0 Project in operation

Chapter/Cross reference :

- 11.5.1/11.1.0 R.A. Podar Ayurvedic College, Bombay.
- 11.5.2/11.1.0 Regional Research Institute, Calcutta.
- 11.5.3/11.1.0 Nizamia Hospital,, Hyderabad.
- 11.5.4/11.1.0 Regional Research Institute, Jaipur.
- 11.5.5/11.1.0 State Ayurvedic College, Lucknow.
- 11.5.6/11.1.0 Central Research Institute. Patiala.
- 11.5.7/11.1.0 Regional Research Institute, Trivandrum.
- 11.5.8/11.1.0 Institute of Medical Sciences, Banaras Hindu University, Varanasi.
- 11.5.9/11.2.0 Orissa Agricultural University, Bhubaneswar.
- 11.5.10/11.2.0 Gujarat Ayurved University, Jamnagar.
- 11.5.11/11.2.0 Central Research Institute, Patiala (Study at AIIMS, New Delhi).
- 11.5.12/11.2.0 Government Medical College, Trivandrum.
- 11.5.13/11.2.0 Institute of Medical Sciences, Banaras Hindu University, Varanasi.

12.0 Folklore Collection

Considering that traditional and folk medical lore has scope to contribute at times simple but effective remedies for certain ailments, efforts have been made by the teams connected with mobile and medico-botanical programme to collect information. Rational trials will be conducted on these claims to assess the extent of their usefulness or the strength of the claim. The information being outcome of experience may be able to be of value in therapeutic practice. The reports received from the teams indicate about 500 folk-lore claims. The examination of these for textual backing and other supporting evidences that can justify the claims are in progress.

13.0 A brief report on All India Seminar on Yoga, Science and Man held from 14 to 16th March, 1975.

The President of the Council (Union Health Minister) desired to have an All India Seminar on Yoga, Science and Man. The proposals were considered by the Scientific Advisory Board (Yoga) at its 8th meeting held on 13 July, 1974. The Scientific Advisory Board (Yoga) constituted a Working Group which at its second meeting held on 28th September, 1974 resolved among other things to constitute a Steering Committee under the Chairmanship of Dr. D.S. Kothari, President, Indian National Science Academy to decide the various details and organisation of the Seminar. The names of the members of the Steering Committee are given at Annexure I. The Executive Committee of the Council at its meeting held on 19th October, 1974 approved the recommendations of the Scientific Advisory Board (Yoga) for organising an All India Seminar on Yoga, Science and Man. The Executive Committee resolved as follows:-

“The Executive Committee approved the proposal of the Board for conducting an All India Seminar on Yoga, Science and Man in Delhi during February, 1975. The Executive Committee also approved the rough estimate of Rs. 85,000/-for the purpose of T.A./D.A. and other expenses in connection with the Seminar”.

The Steering Committee at its first meeting held on 7th November, 1974 also decided that the Seminar be sponsored by the Ministry of Health and Family Planning and organised by the Central Council for Research in Indian Medicine and Homoeopathy and co-sponsored by All India Institute of Medical Science, New Delhi, National Council for Educational Research and Training, New Delhi, Indian National Science Academy, New Delhi, Indian Council of Medical Research, New Delhi, University Grants Commission, New Delhi and Shri Aurobindo Ashram, Pondicherry. The Steering Committee met a number of times and finalized the details of the Seminar.

The Seminar was held in Vigyan Bhavan, New Delhi from 14th to 16th March, 1975. Each day of the Seminar was devoted to a full length discussion of the three important aspects of Yoga viz. Yoga Education, Yoga and Health and Yoga and Research respectively. As many as 23

papers were presented and about 50 eminent scientists and yogis participated in the discussion on the three main subjects. Opportunity was also given to the invitees and other present among the audience for discussion on the paper presented.

About 400 persons attended the Seminar on each day including the members of the Central Council of Indian Medicine, special invitees, delegates from Universities and Yogic Institutions, observers and other officials of the Council and Ministry of Health and Family Planning and other co-sponsored institutions. The Seminar provided a useful forum for exchange of views between the Yogis and modern scientists and the delegates had the opportunity to share the experience of various types of research work done in the field of Yoga by Yogis and Modern Scientists. The Council received number of letters of appreciation from various quarters for the pioneering efforts taken in bringing together eminent scientists and renowned yogis on one platform for the first time in the country. The salient features of recommendations of the Seminar are given below :-

1. Importance should be given for the development of mental faculties and flowering of the personality through Yoga, side-by-side with physical education and health.
2. It should be the endeavour to conduct Yoga research on proper lines with sophisticated experimental techniques and with the free spirit or critical enquiry.
3. There should be effective collaboration between Yogis and Scientists for the proper development of Yoga as Science.
4. Centres of Yoga Research on a multi-disciplinary basis should be established at selected Institutions and Universities.
5. A special project should be started to study Kundalini Power.
6. Indepth Seminars on selected topics should be organised during the next year on the following subjects :-
 - i) Yoga and Education
 - ii) Consciousness in the perspective of Yoga.

iii) **Yogic Therapy in Psychosomatic and other diseases.**

7. **A permanent standing committee be constituted for implementing the above and related recommendations.**

It is proposed to publish the detailed proceedings of the Seminar. The work in this direction is in hand. The publication is expected to be ready within 3 months.

At the concluding session of the Seminar the President of the Council (Union Minister for Health and Family Planning) made an announcement that the Steering Committee constituted for the purpose of Seminar would be a permanent Steering Committee for the purpose of propagation of Yoga Education, Research and Training. The Council arranged the meetings of the Steering Committee and to take up follow-up action wherever necessary according to the directions of the Committee.

On the occasion of the Seminar an exhibition of books on Yoga was organised by the Council. The following organisations, among others, participated in the exhibition by making available the books, manuscripts and charts on Yoga literature.

1. **Vishwayatan Yogashram, New Delhi.**
2. **Yogic treatment-cum-research Centre, Jaipur.**
3. **Shivananda Math, Kamakhya, Gauhati.**
4. **Yoga Vedanta Forest University, Rishikesh.**
5. **Sagar University.**
6. **K.S.Y.M. Samiti, Lonawala, Poona.**

The exhibition was appreciated by the delegates and various dignitaries who attended the Seminar.

Annexure-I

Members of Steering Committee :

1. **Dr. B. K. Anand,**
Regional Adviser,
World Manpower Development,
World Health Organisation,
New Delhi.
2. **Mrs. Anjani Dayanand,**
Secretary,
National Council for Educational
Research and Training,
New Delhi.
3. **Dr. S. V. Apte,**
Deputy Director-General (Technical)
Indian Council of Medical Research,
New Delhi.
4. **Dr. Baldev Singh,**
Emeritus Prof. of Neurology,
All India Institute of Medical Sciences,
New Delhi.
5. **Dr. G. S. Chhina,**
Associate Prof. of Physiology,
All India Institute of Medical Sciences,
New Delhi.
6. **Swami Dharendra Brahmachari,**
Director,
Vishwayatan Yogashram,
New Delhi.
7. **Shri Kireet Joshi,**
Sri Aurobindo Ashram.
Pondicherry.

8. Prof. B. D. Nag Choudhury,
Vice Chancellor,
Jawaharlal Nehru University,
New Delhi.
9. Swami Poornanda Tirtha,
Chairman,
Scientific Advisory Board (Yoga)
Central Council for Research in
Indian Medicine and Homoeopathy
New Delhi.
10. Dr. V. Ramalingaswami,
Director,
All India Institute of Medical Sciences,
New Delhi.
11. Dr. B. Ramamurthi,
Head of the Deptt. of Neurology,
Madras Medical College,
Madras.
12. Dr. K. N. Udupa,
Director,
Institute of Medical Sciences,
Banaras Hindu University,
Varanasi.
13. Swami Vishwananda,
Member,
Governing Body,
Central Council for Research in
Indian Medicine and Homoeopathy
New Delhi.
14. Dr. P. N. V. Kurup,
Adviser in I. S. M.
Ministry of Health and Family Planning &
Director,
Central Council for Research in
Indian Medicine and Homoeopathy,
New Delhi.

Main Speakers :

1. Dr. B. K. Anand
2. Maharishi Mahesh Yogi
3. Swami Dharendra Brahmachari
4. Shri Kireet Joshi
5. Dr. B. Ramamurthi
6. Dr. O. P. Jaggi
7. Shri Anil Vidyalkar
8. Dr. M. L. Gharote
9. Prof. T. R. Anantharaman
10. Dr. K. K. Datey
11. Dr. K. N. Udupa
12. Dr. R. M. Verma
13. Dr. H. N. Murthy
14. Dr. Indra Sen
15. Swami Anandanand
16. Smt. P. S. Rugmini
17. Dr. G. S. Melkote
18. Dr. Pattabi Jois
19. Swami Vishwananda
20. Pandit Gopi Krishna
21. Swami Poornananda Tirtha
22. Dr. Baldev Singh
23. Dr. G. S. Chhina

Other Speakers:

1. Shri Mirchandani
2. Dr. Jugal Kishore

3. **Dr. Rao**
4. **Mohd. Khan**
5. **Hans Raj Yadav**
6. **Shri R. C. Gupta**
7. **Shri G. M. Patel**
8. **Mrs. Asher Patel**
9. **Dr. Shiv Puri**
10. **Swami Suddhanand Bharati**
11. **Shri K. S. Joshi**
12. **Atmanand Sharma**
13. **Shri R. S. Suri**

14.0 Patentssfiled

The Council filed applications for the following patents:

1. A process for the production of Entanin—a saponin from the seeds of *Entada scandens* Benth.
2. A process for the production of anti-inflammatory principles from *Vanda roxburghii* R. Br (No. Orchidaceae, Rasna).

15.0 Projects in Operation

Applied Drug Research Project

- 15.1/6.13.0 Ayurvedic and Allopathic Teams at New Civil Hospital, *Ahmedabad*.
- 15.2/8.2.3 Unani and Allopathic Teams at Aligarh Muslim University, *Aligarh*.
- 15.3/6.13.0 Ayurvedic Team at R.A. Podar Ayurvedic College and Allopathic Team at J. J. Group of Hospitals—*Bombay*.
- 15.4/6.13.0 Ayurvedic Team at Govt. Ayurvedic College & Allopathic Team at G.R. Medical College, *Gwalior*.
- 15.5/6.13.0 Ayurvedic Team at State Ayurvedic College & Allopathic Team at K. G. Medical College, *Lucknow*.
- 15.6/6.13.0 Ayurvedic Team at Safdarjung Hospital and Allopathic Team at All India Institute of Medical Sciences, *New Delhi*.
- 15.7/6.13.0 J. I. P. M. E. R., *Pondicherry*.
- 15.8/6.13.0 Ayurvedic and Allopathic Teams and Institute of Medical Sciences, Banaras Hindu University, *Varanasi*.

Central Research Institutes :

- 15.9/10.1.0 Central Research Institute, *Calcutta*.
- 15.10/6.1.0 Central Research Institute, *Cheruthuruthy*
- 15.11/8.1.0 Central Research Institute, *Hyderabad*.
- 15.12/9.1.0 Central Research Institute, *Madras*.
- 15.13/6.1.0 Central Research Institute, *Patiala*.

Chemical Research Projects :

- 15.14/8.2.3 Aligarh Muslim University, *Aligarh*.
- 15.15/6.11.0 Calcutta University, *Calcutta* (includes extraction supply project).
- 15.16/6.11.0 Delhi University, *Delhi*.
- 15.17/6.11.0 Osmania University, *Hyderabad*.
- 15.18/6.11.0 Central Drug Research Institute, *Lucknow*. (extraction supply project)
- 15.19/6.11.0 Institute of Medical Sciences, Banaras Hindu University, *Varanasi*.

Clinical Research Projects:

- 15.20/6.15.0 Akhandanand Ayurvedic Hospital, *Ahmedabad*.
- 15.21/6.15.0 Maniban Govt. Ayurvedic Hospital, *Ahmedabad*.
- 15.22/6.15.0 National Institute of Mental Health and Neuro Sciences, *Bangalore*.
- 15.23/6.15.0 Government Ayurvedic College, *Baroda*.
- 15.24/6.15.0 R. A. Podar Ayurvedic Hospital, *Bombay*. (2 projects)
- 15.25/6.15.0 Government Ayurvedic College, *Gauhati*.
- 15.26/10.4.0 Guru Raju Homoeopathic Medical College, *Gudivada*.
- 15.27/6.15.0 Gurukul Kangri Ayurvedic College, *Hardwar*.
- 15.28/6.15.0 Rishikul Ayurvedic College, *Hardwar*.
- 15.29/6.15.0 Govt. Ayurvedic College, *Hyderabad*.
- 15.30/7.1.0 Yogic Research Centre, *Jaipur*.
- 15.31/6.15.0 Govt. Ayurvedic College, *Jammu*.

- 15.32/6.15.0 Arya Vaidya Shala, *Kottakal*.
- 15.33/6.15.0 State Ayurvedic College, *Lucknow*.
- 8.4.0./9.4.0 Arignar Anna Hospital, *Madras*.
- 15.35/6.15.0/
8.4.0 A & U Tibbiya College, *New Delhi*.
- 15.36/7.1.0 Delhi Yoga Sabha, *New Delhi*.
- 15.37/7.1.0 Vishwayatan Yogashram, *New Delhi*.
- 15.38/6.15.0 Tilak Ayurved Mahavidyalaya, *Poona*.
- 15.39/6.15.0/
10.4.0 Institute of Medical Sciences, Banaras
Hindu University, *Varanasi*, (6 Projects
of 6.0 and one project of 10.0)

Drug Proving Research Projects :

- 15.40/10.5.0 K. N. H. Homoeopathic Medical College,
Bhagalpur.
- 15.41/10.5.0 D. N. De Homoeopathic Medical College,
Calcutta.
- 15.42/10.5.0 National Homoeopathic Medical College.
Lucknow.
- 15.43/10.5.0 Midnapore Homoeopathic Medical College,
Midnapore.

Family Planning Research Projects:

- 15.44/11.1.0 R. A. Podar Ayurvedic College, *Bombay*.
15. 5/11.1.0 Regional Research Institute, *Calcutta*.
- 15.46/11.1.0 Nizamia Hospital, *Hyderabad*.
- 15.47/11.1.0 Regional Research Institute, *Jaipur*.
- 15.48/11.1.0 State Ayurvedic College, *Lucknow*.

15.49/11.1.0/ 11.2.0	Central Research Institute, <i>Patiala</i> . (11.2.0. study at AIIMS, New Delhi)
15.50/11.1.0	Regional Research Institute, <i>Trivandrum</i> .
15.51/11.1.0	Institute of Medical Sciences, Banaras Hindu University, <i>Varanasi</i> .
15.52/11.2.0	Orissa Agricultural University, <i>Bhubaneswar</i> .
15.53/11.2.0	Gujarat Ayurvedic University, <i>Jamnagar</i> .
15.54/11.2.0	Government Medical College, <i>Trivandrum</i> .
15.55/11.2.0	Institute of Medical Sciences, Banaras Hindu University, <i>Varanasi</i> .

Literary Research Projects :

15.56/8.5.0	Aligarh Muslim University, <i>Aligarh</i> ,
15.57/8.5.0	Takmil-u-Tibb, Institution, <i>Lucknow</i> .
15.58/6.16.0/ 9.5.0	T. M. S. S. M. Library, <i>Thanjavur</i> .
15.59.9.5.0	Government College of Indian Medicine, <i>Tirunelveli</i> .

Pharmacognostical Research Projects :

15.60/6.10.0	L. M. College of Pharmacy, <i>Ahmedabad</i> .
15.61/8.2.2	Aligarh Muslim University, <i>Aligarh</i> .
15.62/6.10.0	Calcutta University, <i>Calcutta</i> .
15.63/6.10.0	Punjab University, <i>Chandigarh</i> .
15.64/6.10.0	Regional Research Laboratory, <i>Jammu</i> .
15.66/6.10.0	National Botanical Garden, <i>Lucknow</i> .
15.66/6.10.0	Indian Drug Research Association, <i>Poona</i> .

Pharmacological Research Projects :

- 15.67/6.12.0 **Gandhi Medical College, *Bhopal.***
- 15.68/6.12.0 **Haffkine Institute, *Bombay.***
(2 Proejcts & 1 toxicity project)
- 15.69/6.12.0 **Calcutta University, *Calcutta.***
- 15.70/6.12.0 **Government Medical College, *Jodhpur.***
- 15.71/6.12.0 **K. G. Medical College, *Lucknow.***
- 15.72/6.12.0 **L. L R. Medical College, *Meerut.***
(Toxicity study project)
- 15.73/6.12.0 **Govt. Medical College, *Trivandrum.***
- 15.74/6.12.0 **Institute of Medical Sciences, Banaras
Hindu University, *Varanasi.***

Regional Research and Allied Institutes :

- 15.75/6.2.0 **Regional Research Institute, *Bhubaneswar.***
- 15.76/6.2.0 **Regional Research Institute, *Calcutta.***
- 15.77/6.16.0 **Indian Institute of History of Medicine,
*Hyderabad.***
- 15.78/6.2.0 **Regional Research Institute, *Jaipur.***
- 15.79/6.2 0 **Regional Research, Institute, *Kottayam.***
- 15.80/6.4.0/
9.3.0 **Capt. Srinivasa Murthy Research Institute,
*Madras.***
- 15.81/6.6.0 **Dr. A. Laxmipathi Unit for Research in
Indian Medicine, *Madras .***
- 15.82/10.2.0 **Regional Research Institute, *New Delhi.***
- 15.83/6.3.0 **Jawaharlal Nehru Ayurvedic Medicinal
Plants Garden and Herbarium and Museum,
*Poona.***

- 15.84/6.5.0 **Amalgamated Unit, Tarikhet.**
15.85/6.2.0 **Regional Research Institute, Trivandrum.**

Regional Research Centres:

- 15.86/6.7.0 **Regional Research Centre, Bangalore.**
15.87/6.7.0 **Regional Research Centre, Jhansi.**
15.88/6.7.0 **Regional Research Centre, Jogindernagar.**
15.89/6.7.0 **Regional Research Centre, Nagpur.**
15.90/6.7.0 **Regional Research Centre, Vijayawada.**

Standardisation Research Projects :

- 15.91/6.9.0 **Gujarat Ayurvedic University, Jamnagar.**
15.92/6.9.0 **Gujarat Ayurvedic Vikas Mandal Pharmacy, Junagadh.**
15.93/8.3.0 **Institute of History of Medicine and Medical Research, Hamdard Dawakhana, New Delhi.**
15.94/10.3.0 **Dalwar Homoeopathic Medical College, Patna.**
15.95/6.9.0 **Institute of Medical Sciences, Banaras Hindu University, Varanasi.**
15.96/6.9.0 **Academy of Ayurveda, Vijayawada.**

Survey of Medicinal Plants Projects :

- 15.97/6.8.0 **Government Ayurvedic College, Gauhati.**
15.98/6.8.0 **Government Ayurvedic College, Gwalior.**

- 15.99/6.8.0 Government Ayurvedic College, *Jammu*.
15.100/6.8.0 Government Ayurvedic College, *Patna*.
15.101/6.8.0 Government Ayurvedic College, *Rajpipla*.
15.102/6.8.0 Government College of Indian Medicine,
Tirunelveli.

Survey and Surveillance Projects :

- 15.103/6.14.0 Gujarat Ayurvedic University, *Jamnagar*.
15.104/6.14.0 Sri Krishna Ayurvedic College, *Kurukshetra*.
15.105/6.14.0 Institute of Medical Sciences, Banaras
Hindu University, *Varanasi*.
15.106.6.14.0 Civil Hospital, *Vidisha*.

**Headquarters and other common Allied
Projects :**

Headquarters, *New Delhi*.

Documentation Centre, *New Delhi*.

Jawaharlal Nehru Ayurvedic Medicinal
Plants Garden, Herbarium and Museum,
Poona.

Indian Institute of History of Medicine,
Hyderabad.

Journal of Research in Indian System of
Medicine, *Varanasi*.

All 6.8. Projects.

CENTRAL COUNCIL FOR RESEARCH IN INDIAN MEDICINE AND HOMOEOPATHY
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR 1974-75

RECEIPTS			PAYMENTS		
S.No.	Particulars	Amount	S.No.	Particulars	Amount
1.	Opening balance		1.	Headquarters Office	
	a) Headquarters Office		a)	Pay and allowances	5,22,351.06
	i) Cash in hand 1,000.00		b)	Travelling allowance	1,45,787.30
	ii) Cash at bank 1,805.02	2,805.02	c)	Contingencies	
	b) Cash balance with the Decentralised Units	81,876.33	i)	Consumable stores and miscellaneous expenses	4,17,187.54
	c) Imprest advance with the units	91,303.23	ii)	Non-consumable stores	23,685.83
	d) Imprest advance remitted by the Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona but not received in the Council.	1,000.00	d)	Advances	
	e) Lumpsum fund released in the month of March, 1974 but received in the month of April, 1974 by the decentralised units	98,229.45	i)	Travelling allowances	5,450.00
	f) Advances given to the Regional Research Institute Calcutta, Drug Proving Research Units, Calcutta and Lucknow, Regional Research Centre, Jogindernagar	800.00	ii)	Contingencies	4,350.00
			e)	Income-tax paid	59,394.00
			f)	C. P. F. recoveries transferred to C. P. F. account of the Council	11,18,811.73
2.	Grant-in-aid		g)	Council's contribution to CPF account	62,520.25
	a) Department of Health	1,11,00,000.00	h)	General recoveries paid to other offices etc.	22,515.05
	b) Department of FP	4,63,000.00	i)	Leave salary and pension contribution paid	41,844.75
		1,15,63,000.00	j)	Refund of earnest money	200.00
			k)	Refund of loan to CPF account	1,00,000.00
			l)	Transfer to fixed deposit account	55,117.00
	Total C/O	1,18,39,014.03		Total C/O	19,76,964.45

S.No.	RECEIPTS	Amount	S.No	PAYMENTS	Amount
		B/F 1.18,39,014.03			B/F 19,76,964.45
3.	Recovery of Contributory Pravident Fund, Income-Tax etc. payable to other offices, creditable to CPF etc.	4,07,849.40		m) Refund of Compulsory deposit wrongly recovered	150.00
4	Contingent advance and T.A. advance paid in the past years but adjusted during 1974-75 (95,878.50+ 8959.70)	1,04,838.20	2.	Documentation Centre	
5.	Subscription for journals	3,188.93		a) Pay and allowances	1,78,336.31
6.	Refund of pay and allowances etc. drawn in the past year	3,938.41		b) Travelling Allowances	514.95
7.	Sales proceeds of bulletins	2,332.57		c) Contingencies	
8.	Proceeds from sale of old articles	1,930.48		i) Consumable stores and miscellaneous expenses	22,314.18
9.	Miscellaneous recoveries and receipts by the decentralised units	2,97,439.72		ii) Non-consumable stores	7,942.72
10.	Application fees	185.00		d) Advances	—
11.	Purchase fee	2,602.90		i) T.A.	
12.	Unspent balance of fund refunded by the erstwhile grant-in-aid units	2,235.10	3.	Publications :	
13.	Security deposit/earnest money (By Headquarters office)	533.00		a) Pay and allowances	38,863.77
14.	Interest on fixed deposit	26,378.86		b) T. A.	720.00
15.	Loan from CPF account	1,00,000.00		c) Contingencies	
16.	Transfer from fixed deposit account	55,117.00		i) Consumable Stores and miscellaneous expenses	25,516.49
17.	Miscellaneous receipts	3,148.37		ii) Non-consumable stores	—
18.	Security deposit/earnest money (by decentralised units) (Rs. 213.87+215.00)	428.87	4.	Advances	
				a) Cycle advance	3,800.00
				b) Scooter advance	6,000.00
				c) Festival advance	30,400.00
					40,200.00
	Total C/O	1,28,51,160.84		Total C/O	22,92,422.87

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	22,92,422 87
			5	Drug Research Scheme (CDRS) (Ayurveda)	
				a) Pay and allowances	11,70,812.05
				b) T.A.	5,445.80
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	77,874.79
				ii) Non-consumable stores	5,519.00
				d) Advances	
				i) T.A.	1,030.00
				ii) Contingencies	5,574.57
					12,66,256.21
			6.	Drug Research Scheme (CDRS) (Unani)	
				a) Pay and allowances	56,450.80
				b) T. A.	103.30
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	4,970.65
				ii) Non consumable stores	81.25
					61,606.00
				d) Grant-in-aid	13,128.00
			7.	Drug Standardisation Research Schemes (Ayurveda, Siddha and Unani)	
				a) Pay and allowances	4,83,787.39
				b) T.A.	2,933.50
				c) Contingencies	
				i) Consumable stores and miscellaneous expenditure	26,831.30
				ii) Non-consumable stores	5,743 97
				d) Advances	
				i) T. A.	—
				ii) Contingencies	4,614.82
					5,23,910.98
				Total C/O	41,57,324.06
	Total C/O	1,28,51,160.84			

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	41,57,324.06
			8.	Survey and Cultivation of Medicinal Plants Schemes :	
				a) Pay and allowances	3,16,323.45
				b) T. A.	9,601.55
				c) Contingencies	
				i) Consumable stores and miscellaneous expenditure	30,879.26
				ii) Non-Consumable stores	—
				d) Advance	
				i) T. A.	230.00
				ii) Contingencies	1,811.75
					3,58,846.01
				e) Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona.	
				i) Pay and allowances	97,666.57
				ii) T.A.	1,847.35
				iii) Contingencies	
				a) Consumable stores and miscellaneous expenses	8,940.89
				b) Non-consumable stores	1,085.00
					1,09,539.81
			9.	a) Literary Research Schemes (Ayurveda, Unani and Siddha)	
				a) Pay and allowances	1,74,778.40
				b) T. A.	72.00
				c) Contingencies	
				i) consumable stores and miscellaneous expenditure	7,883.63
				ii) Non consumable stores	—
					—
	Total C/O	1,28,51,160.84		Total C/O	46,25,709.88

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	46,25,709.88
				d) Advances	<u>—</u> 1,82,734.03
				e) Grant-in-aid	14,066.73
				b) Indian Institute of History of Medicine, Hyderabad.	
				a) Pay and allowances	1,29,915.40
				b) T. A.	714.95
				c) Contingencies	
				i) Consumable stores and miscellaneous expenditure	14,163.12
				ii) Non-consumable stores	<u>347.75</u> 1,45,141.22
			10. Seminar on Yoga		
				a) T. A.	9,277.80
				b) Contingencies	
				i) Consumable stores and miscellaneous expenses	21,854.43
				ii) Non-consumable stores	<u>3,321.30</u> 34,453.61
			11. a) Clinical Research Schemes (Ayurveda, Unani and Siddha)		
				a) Pay and allowances	8,27,064.15
				b) T. A.	4,637.80
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	54,121.19
				ii) Non-consumable stores	6,451.20
				d) Advances	<u>—</u> 8,92,274.34
	Total C/O	<u>1,28,51,160.84</u>		Total C/O	<u>58,94,379.81</u>

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	58,94,379.81
				b) Dr. A. Lakshmi pathi Unit for Research in Indian Medicine, Madras	
				a) Pay and allowaces	1,41,117.12
				b) T. A.	1,014.50
				c) Contingencies	
				i) Consumable stores and miscellaneons expenses	13,269.88
				ii) Non-consumable stores	—
					<u>1,55,401.50</u>
				c) Ayurvedic Research Unit, Bangalore	
				a) Pay and allowances	1,33,173.67
				b) T. A.	725.20
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	5,372.80
				ii) Non-Consumable stores	—
					<u>1,39,271.67</u>
			12.	Central Research Institutes (Patiala, Cheruthurnthy, Calcutta, Madras and Hyderabad)	
				a) Pay and allowances	16,44,711.57
				b) T. A.	16,707.10
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	4,40,025.27
					<u>4,40,025.27</u>
	Total C/O	<u>1,28,51,160.84</u>		Total C/O	<u>61,89,052.98</u>

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	61,89,052.98
				ii) Non-consumable stores	<u>1,18,399.06</u> 22,19,843.00
			13.	Regional Research Institutes (Jaipur, Bhabaneswar, Kottayam, Calcutta and New Delhi)	
				a) Pay and allowances	8,24,657.92
				b) T. A.	6,450.70
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	2,47,456.03
				ii) Non-consumable stores	60,492.73
				d) Advances	
				i) T. A.	—
				ii) Contingencies	<u>500.00</u> 11,39,557.38
			14.	Regional Research Centres (Nagpur, Vijayawada, Jhansi and Jogindernagar)	
				a) Pay and allowances	4,67,673.18
				b) T. A.	7,954.60
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	60,325.18
				ii) Non-consumable stores	3,940.61
				d) Advances	
				i) T. A.	841.00
				ii) Contingencies	<u>3,158.77</u> 5,48,893.34
	Total C/O	<u>1,28,51,160.84</u>		Total C/O	<u>1,00,97,346.70</u>

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	1,00,97,346.70
			15.	Amalgamated Unit, Ranikhet	
				a] Pay and allowances	2,91,731.50
				b] T. A.	7,136.45
				c] Contingencies	
				i] Consumable stores and miscellaneous expenses	53,954.54
				ii) Non-consumable stores	<u>1,582.27</u> 3,54,404.76
			16.	Captain Srinivasamurti Research Institute Madras.	
				a) Pay and allowances	1,87,083.95
				b) T. A.	600.00
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	42,565.71
				ii) Non-consumable stores	<u>—</u> 2,30,249.66
			17.	Yoga-Grant-in-aid	4,69,365.00
			18.	Homoeopathic Research Schemes (D.S.U., D.P.R.U., and C.R.U.)	
				a) Pay and allowances	1,70,269 50
				b) T. A.	3,558.60
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	36,968.09
				ii) Non-consumable stores	114.00
	Total C/O	<u>1,28,51,160.84</u>		Total C/O	<u>1,11,51,366.12</u>

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	1,11,51,366.12
				d) Advances	
				i) T.A.	306.00
				ii) Contingencies	<u>—</u> 2,11,216.19
				e) Grant-in-aid	14,000.00
19.				Family Planning Research Scheme	
				a) Pay and allowances	3,02,845.19
				b) T.A.	1,176.20
				c) Contingencies	
				i) Consumable stores and miscellaneous expenses	22,371.04
				ii) Non-consumable stores	14,804.63
				d) Advances	<u>—</u> 3,41,197.06
20.				Advance payment to the PWD, Calcutta for carrying out repairs to the building of C.R.I. (H), Calcutta	31,131.00
21.				Miscellaneous payments of recoveries and receipts by the decentralised units	2,63,547.07
22.				Refund of security by decentralised units	2,360.00
23.				Closing balance	
				i) Headquarters	
				a. Cash in hand	1,000.00
				b. Cash at Bank	<u>10,791.84</u> 11,791.84
				ii) Closing balance with the decentralised Units	65,583.08
	Total C/O	<u>1,28,51,160.84</u>		Total C/O	<u>1,20,92,192.36</u>

S.No.	RECEIPTS	Amount	S.No.	PAYMENTS	Amount
	B/F	1,28,51,160.84		B/F	1,20,92,192.36
			iii)	Imprest advance as on 1-4-1974	91,303.23
				Add-paid during 1974-75	1,750.00
					<u>93,053.23</u>
				Less advance adjusted	1,288.12
				less refund	<u>3,529.18</u>
					83,235.93
			iv)	Lumpsum fund released in the month of March, 1975 but received in the month of April, 1975 by the decentralised units	6,68,932.55
			v)	Imprest advance with the JNAMPGH, Poona (Contra)	1,000.00
			vi)	Advance given to the R.R.I., Calcutta, DPRU Calcutta, RRC, Jogindernagar DPRU, Lucknow	800.00
					<u>800.00</u>
	Total	<u>1,28,51,160.84</u>		Total	<u>1,28,51,160.84</u>

STATEMENT OF INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR 1974-75

S.No.	Expenditure	Amount	S.No.	Income	Amount
1	Headquarters Office		1.	Grant-in-aid from the Govt. of India	1,15,63,000.00
	a) Pay and allowances	5,22,351.06			
	b) Travelling allowances	1,45,787.30	2.	Recovery of C.P.F., Income Tax etc. payable to other offices, creditable to CPF account etc.	
	c) Consumable stores and miscellaneous expenses	4,17,187.54		i) By Headquarters office	4,07,849.40
	d) Leave salary and Pension contribution	41,844.75		ii) By decentralised units	<u>2,97,439.72</u>
					7,05,289.12
2.	Documentation Centre-cum-Library		3.	Refund of pay, T. A. etc. drawn in the previous year	3,938.41
	a) Pay and allowances	1,78,336.31			
	b) Travelling allowances	514.95	4.	Contingent advance and T. A. advance paid in the past years but adjusted during 1974-75	1,04,838.20
	c) Consumable stores and miscellaneous expenses	22,314.18			
3.	Family Planning Scheme		5.	Subscriptions for journals	3,188.93
	a) Pay and allowances	3,02,845.19			
	b) Travelling allowances	1,176.20	6.	Sales proceeds of bulletins	2,332.57
	c) Consumable stores and miscellaneous expenses	22,371.04	7.	Proceeds from sale of old articles	1,930.48
4.	Other units :		8.	Application fees	185.00
	a) Pay and allowances	71,56,080.39	9.	Purchase fee	2,602.90
	b) Travelling allowances	79,501.20	10.	Refund of unspent balance of grant by the erstwhile grant-in-aid unit	2,235.10
	c) Consumable stores and miscellaneous expenses	11,72,973.25	11.	Interest of fixed deposits	26,378.86
5.	Income tax paid	59,394.00	12.	Loan from CPF account	1,00,000.00
6.	Contributory provident fund recoveries transferred to CPF account of the Council	5,16,561.67	13.	Transfer from fixed deposit account	55,117.00
			14.	Miscellaneous receipts	3,148.37
	Total C/O	<u>1,06,39,239.03</u>		Total C/O	<u>1,25,74,184.94</u>

Expenditure		Amount	Income	Amount
	B/F	1,06,39,239.03		B/F 1,25,74,184.94
7.	Scooter, cycle and festival advance	40,200.00	15.	Transfer to CCRIMH of non-consumable articles of grant-in-aid units taken over under the direct control
8.	Council's contribution to CPF	62,520.25		48,015.90
9.	Miscellaneous recoveries paid to other offices etc.		16.	Security deposit
	i) By Headquarters office	22,515.05	17.	Transfer to balance sheet
	ii) By decentralised units	2,63,547.07		82,413.47
10.	Refund of loan to CPF account	1,00,000.00		
11.	Transfer to fixed deposit account	55,117.00		
12.	Refund of Compulsory Deposit wrongly recovered	150.00		
13.	Grant to grant-in-aid units	5,10,559.73		
14.	Salary, T.A. contingencies etc. out standing for payment	6,04,591.93		
15.	Council's contribution etc. to CPF account for 1974-75 out standing for payment	4,06,388.12		
	Total	1,27,04,828.18		Total
				1,27,04,828.18

BALANCE SHEET AS ON 31ST MARCH, 1975

Liabilities		Amount	Assets		Amount
1. Capital Fund			1. Closing balance		
a) Value of assets acquired, advances outstanding in the last year	59,27,504.50		i] Headquarters office		
b) Less security deposit/ loan refunded (Rs. 213.87 + Rs. 500)	<u>713.87</u>		a) Cash in hand	1,000.00	
c) Less contingent/T.A. advance of the past years adjusted (Rs. 98689.93 + Rs. 9747)	<u>1,08,436.93</u>		b) Cash at bank	<u>10,791.84</u>	11,791.84
	59,26,790.63		ii) Closing balance with the decentralised units		65,583.08
d) Transfer from the statement of income and expenditure	<u>82,413.37</u>	57,35,940.23	iii) Imprest advance		89,235.93
			iv) Lumpsum released in March, 1975 but received in April, 1975 by some decentralised units		6,68,932.55
2. Outstanding liabilities			v) Advances given to Regional Research Institute, Calcutta, DPRU, Calcutta and Lucknow, Regional Research Centre, Jogindernagar for opening current account		800.00
a] Salary, T. A. contingencies, income tax etc. outstanding for payment		6,04,591.93	vi) Suspense account		2,159.12
b] Council's contributions etc. to CPF account		4,06,388.12	2. Assets		
3. Liabilities on Security Deposits			i) Non. consumable stores		
Balance of previous years	11,445.80		a) Headquarters office	2,02,302.36	
Add during 1974-75	<u>748.00</u>		b) Documentation Centre-cum-Library	2,00,418.44	
	12,193.80		c) Publications	12,093.96	
Less refund	<u>2,560.00</u>	9,633.80	d) Drug Res. Scheme (CDRS)	2,22,247.18	
			e) Drug Standardisation Research Scheme	4,28,492.18	
Total C/O		<u>67,56,554.08</u>	Total C/O		<u>8,38,502.52</u>

Liabilities		Amount	Assets		Amount
	B/F	67,56,554.08		B/F	8,38,502.52
			f) Survey and Cultiva- tion of Medicinal Plants Scheme	5,28,025.28	
			g) Literary Res. Scheme	2,07,299.76	
			h) Clinical Res. Scheme	8,56,079.40	
			i) Central Res. Institutes	18,64,812.02	
			j) Regional Res. Institutes	2,70,375.92	
			k) Regional Res. Centres	1,92,255.99	
			l) Amalgamated Unit	1,83,730.54	
			m) Captain Srinivasamurti Research Institute	1,74,636.05	
			n) Homoeopathy Res. Scheme	2,87,423.67	
			o) Family Planning Res. Scheme	66,600.76	56,96,793.51
			3.) Building (Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium)		98,005.00
			4. Contingent advance to units	1,11,179.22	
			Less adjustment	98,689.93	
				<u>12,489.29</u>	
			Add advances paid during 1974-75	<u>20,909.91</u>	33,399.20
			5. T. A. advance to the units	11,472.00	
			Less adjustment	9,747.00	
				<u>1,725.00</u>	
			Add advances paid during 1974-75	<u>7,857.00</u>	9,582.00
			Total C/O	<u>67,56,554.08</u>	Total C/O <u>66,76,282.23</u>

Liabilities	Amount	Assets	Amount
	B/F 67,56,554.08		B/F 66,76,283.23
		6.	Advance payment to the PWD for carrying out repairs to the buildings of Central Research Institute (H) (Rs. 45,000+Rs. 31,131) 76,131.00
		7.	Security Deposits (Rs. 4354.72—Rs. 213.87) 4,140.85
Total	<u>67,56,554.08</u>		<u>67,56,554.08</u>

I have examined the foregoing accounts and balance sheet of the Central Council for Research in Indian Medicine and Homoeopathy, New Delhi and obtained all the information, I have required and subject to observations in the Inspection Report appended, I certify as a result of my audit, that in my opinion these accounts and the balance sheet are properly drawn up so as to exhibit a true and fair state of affairs of the Council according to the best of the information and explanations given to me and as shown by the Books of the Council.

Sd/-
(P.N.V. Kurup)
Director
C.C.R.I.M.H.

Sd/-
(K.K. Subramanian)
Asstt. Director (Admn.)
C.C.R.I.M.H.

Sd/-
(J.K. Dass)
(Accounts Officer)
C.C.R.I.M.H.

Sd/-
(Shri Krishna)
(Accounts Officer)
A.G.C.R.

Liabilities		Amount	Assets		Amount
	B/F	67,56,554.08		B/F	8,38,502.52
			f) Survey and Cultiva- tion of Medicinal Plants Scheme	5,28,025.28	
			g) Literary Res. Scheme	2,07,299.76	
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			j) Regional Res. Institutes	2,70,375.92	
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			l) Amalgamated Unit	1,83,730.54	
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			Less adjustment	98,689.93	
				<u>12,489.29</u>	
			Add advances paid during 1974-75	20,909.91	33,399.20
			5. T. A. advance to the units	11,472.00	
			Less adjustment	9,747.00	
				<u>1,725.00</u>	
			Add advances paid during 1974-75	7,857.00	9,582.00
			Total C/O	<u>67,56,554.08</u>	Total C/O <u>66,76,282.23</u>

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	B/F 67,56,554.08		B/F 66,76,283.23
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